

# **MARINE SAFETY PROGRAM**

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## **HEARINGS BEFORE THE SUBCOMMITTEE ON COAST GUARD AND NAVIGATION OF THE COMMITTEE ON MERCHANT MARINE AND FISHERIES HOUSE OF REPRESENTATIVES**

**NINETY-EIGHTH CONGRESS**

**FIRST SESSION**

**ON**

**H.R. 3486**

**A BILL TO PROMOTE MARITIME SAFETY ON THE HIGH SEAS AND  
NAVIGABLE WATERS OF THE UNITED STATES AND FOR OTHER PUR-  
POSES**

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**JULY 19, 27, AUGUST 2, SEPTEMBER 29, 1983**

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## MARINE SAFETY PROGRAM

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TUESDAY, JULY 19, 1983

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON COAST GUARD AND NAVIGATION,  
COMMITTEE ON MERCHANT MARINE AND FISHERIES,  
Washington, D.C.

The subcommittee met, pursuant to call, at 10:15 a.m., in room 1334, Longworth House Office Building, Hon. Gerry Studds (chairman of the subcommittee) presiding.

Present: Representatives Studds, Hughes, Carper, Thomas, Jones, Young, and Forsythe.

Staff present: Andy Schwarz, Bill Woodward, Suzanne Bolton, Gina DeFerrari, Sandy Holt, Duncan Smith, Brooks Bowen, Ed Welch, George Mannina, Kip Robinson, John Dentler, Shelia Pugh, Barbara Cavas, Bob Kurrus, Cher Brooks, John Cullather, Rudy Cassani, and Sue Waldron.

Mr. STUDDS. The subcommittee will come to order, if that is possible.

The subcommittee meets this morning to conduct the first of three hearings concerning the marine safety program of the U.S. Coast Guard.

We intend today to focus particular attention on three recent maritime tragedies: the sinking of the collier *Marine Electric* on February 12, 1983; the capsizing of the mobile offshore drilling unit *Ocean Ranger* on February 14, 1982; and the disappearance of the merchant vessel *Poet* on or about October 26, 1980.

These three incidents took a total of 149 lives and each raised serious questions about marine safety inspection procedures, and about the ability of merchant crews to survive emergencies at sea.

The subcommittee is grateful for the cooperation of the Coast Guard and the American Bureau of Shipping in helping us to prepare for these hearings. We are grateful, as well, to Mr. Eugene Kelly, one of the three survivors of the *Marine Electric* tragedy, and to Capt. Henry Downing, vice president of Marine Transport Lines, the owners of the *Marine Electric*, for their willingness to participate in our hearing today.

If there is one message that I hope will emerge from these hearings, it is that the Congress of the United States is committed absolutely to establishing and maintaining the safety of all vessels which fly the flag of the United States.

For this commitment to have meaning, I am convinced that:

First, the Coast Guard must have the resources and the policy direction required to carry out marine safety responsibilities with thoroughness and competence;

Second, the Coast Guard must be convinced that its responsibility to safety and search and rescue are viewed by Congress and the public as the highest priorities of the service;

Third, vessel owners and crews, and the classification societies, must refrain from using the existence of the Coast Guard as an excuse to evade their own responsibilities for marine safety;

Fourth, numerous changes are required in policy and law to improve the odds that imperiled merchant seamen will survive vessel casualties at sea;

Fifth, make certain that vessel owners, offices, and crews will take seriously the marine safety regulations promulgated and enforced by the Coast Guard; and

Sixth, guarantee that valid and substantial considerations of safety will always prevail over economic considerations in the operation of the U.S.-flag merchant fleet.

The chairman of the full committee, Mr. Jones of North Carolina, has taken an important step toward the improvement of marine safety through the introduction of H.R. 3486, a bill which we will be giving thorough consideration in the course of these hearings.

Does the chairman of the committee wish to make a statement at this time?

Mr. JONES. Yes, Mr. Chairman.

As you stated, this first in a set of three hearings has been arranged for the purpose of taking a close look at the Coast Guard's marine safety program. Public and congressional concern, especially regarding Coast Guard inspection procedures, was heightened by the SS *Poet* and *Ocean Ranger* disasters. Certainly the recent tragic sinking of the *Marine Electric* has served to sustain our concern. It is evident that Coast Guard inspection programs are an important part of marine safety.

The premise of H.R. 3486, which I have introduced, is that the Coast Guard needs additional statutory authority in order to improve marine safety. Whereas, the safety provisions set out in my bill should not place a great strain on Coast Guard resources, we will be asking to what extent additional resources may be required in order to carry out the provisions within the bill, and also, to adequately carry out the entire merchant marine safety program.

One of the provisions of H.R. 3486 is designed to substantially increase penalties for inspection violations. When a mobile offshore drilling unit, a MODU, which may lease for about \$100,000 per day, can only be assessed a flat penalty of \$500, there is clearly insufficient incentive on the part of an owner/operator to comply with inspection regulations.

My bill would also require the shipowner to contact the Coast Guard if he has not heard from his vessel in over 48 hours. This would be a legal obligation, backed up by a civil penalty. It is apparent that the current system for vessel reporting is not always functional in terms of providing for merchant marine safety. For example, the owner of the SS *Poet* was not in communication with his vessel for 10 days before he contacted the Coast Guard.

Also, despite the fact that the SS *Poet* had not been contacting the Coast Guard's AMVER system every 48 hours, the Coast Guard was not aware of this fact due to the nature of the system. I under-

stand that the USMER and AMVER reporting systems are now in the process of merging into a single mandatory system. This is hopefully a step in the right direction.

H.R. 3486 recognizes the value which marine satellite telecommunications systems have for enhancing marine safety by improving communication capabilities. Therefore, my bill includes a cost-sharing provision which is intended to promote the use of these systems on U.S. commercial vessels.

Another feature of my bill would effectively give authority to the Coast Guard to review an officer's Federal license, even though he was operating under his State license, when involved in alleged acts of misconduct or incompetence.

I have introduced H.R. 3486 with the belief that certain statutory changes will help to strengthen the Coast Guard's marine safety program. The hearings we are holding reflect the committee's continued strong concern for the safety of U.S. mariners.

Certainly, no one in this room wants to reduce the competitiveness of the U.S. merchant marine by overregulating the industry. We must, however, insure that all reasonable measures to insure marine safety are taken—whether by establishing new laws, or by effectively enforcing existing laws and regulations.

Mr. Chairman, I yield back the balance of my time.

Mr. STUDDS. I thank the gentleman. The gentleman from Alaska.

Mr. YOUNG. Thank you.

Mr. Chairman, I am happy to be here today to begin these hearings on the marine safety programs of the U.S. Coast Guard. I hope that these will build on the hearings we had 2 years ago and serve to carry out our oversight responsibilities.

Marine safety, of course, is of prime importance to everyone in the maritime industry: the Coast Guard, the shippers, the unions, offshore oil, pilots, and commercial fishermen. The three recent major incidents which you referred to remind us of the possibility of large loss of life which all of us regret.

These incidents not only point out the need for safety but also the dangerous nature and risks of going to sea for a living, as all those who have gone to the sea in the past have had to face. As the Representative from the State of Alaska, I can assure you that I am familiar with a harsh, unforgiving maritime environment.

At this time I would like to compliment the Coast Guard concerning the *Princendam*. There was an instance where we faced a great loss of life at sea and members of the crew and passengers were all rescued with the loss of one life. Thus we must accept, in looking at these marine safety programs, the reality of the conditions in the marine industry.

We must also accept the fact that a safe merchant marine will not only eliminate unnecessary loss of life, but is just good business. No one wins when a marine casualty occurs.

During the course of these hearings, we must look at the impact that the marine safety program has on the industry, at a way to create a safer yet cost-effective merchant marine, and the impact that any change in the Coast Guard's program would have on its responsibilities and resources. The Coast Guard does an excellent job of providing for a safe merchant marine given the resources they have.

Their efforts in recent years to transfer some functions to the private sector reveal a balance of the functions that are to be performed by the Coast Guard as the Government's responsibility and those that are functions capable of being performed privately.

Mr. Chairman, I look forward to working with you throughout these hearings and welcome the Coast Guard and others knowledgeable witnesses we have here today.

Again I want to stress, though, just laws themselves will not prevent loss at sea. Let's try to work together and work out a workable solution to those problems we have been faced with.

Thank you, Mr. Chairman.

Mr. STUDDS. I thank the gentleman. Does the ranking member of the committee have a statement, the gentleman from New Jersey?

Mr. FORSYTHE. Thank you, Mr. Chairman. I agree with the appropriateness of these hearings. There were numerous maritime safety issues highlighted during the last couple of years concerning marine tragedies such as the loss of the *Marine Electric* and the great majority of her crew in February of this year. This is a grim reminder that the sea can be very unforgiving to ships and men in trouble.

Maritime safety should be of the highest priority—for the Coast Guard and other government agencies, for the owners of ships and offshore facilities and for the officers and crews who operate them. Many laws now regulate marine safety, but it appears from hard experience learned in these recent disasters that additional legislative action may be necessary. I commend Chairman Jones for addressing the very important safety matters in your bill H.R. 3486.

The Coast Guard Subcommittee hearings certainly complement the hearings which were held in June by the Subcommittee on the Panama Canal and the Outer Continental Shelf. Those hearings explored in detail safety-related aspects of the offshore oil industry.

I was pleased to learn in those hearings that the offshore industry has, generally, a very fine safety record. I attribute the safety record in part to recent legislative and regulatory actions by the Congress and the Coast Guard. However, a large measure of credit must go to the industry itself, for recognizing the hazards of work at sea and for taking positive steps to minimize those hazards.

The other committee members know well that I have been interested in marine safety for many years, and that I have been more than willing to speak out on important issues in this field, such as the need for U.S.-flag vessels and OCS drilling rigs to be equipped with survival suits in cold water areas.

I do not want to dwell at length on the wide array of issues which the subcommittee will be addressing in its hearings, so let me just close by saying that I do support strongly the intent of Chairman Jones' bill, and I wish the subcommittee good luck in pursuing the current status of marine safety issues and applicable regulatory programs.

I look forward to working with you, Mr. Studds, the chairman of the Coast Guard Subcommittee, and with you, Mr. Jones.

[The bill and OMB comments follow:]

98TH CONGRESS  
1ST SESSION

**H. R. 3486**

To promote maritime safety on the high seas and navigable waters of the United States, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

**JUNE 30, 1983**

**Mr. JONES** of North Carolina introduced the following bill; which was referred to the Committee on Merchant Marine and Fisheries

# A BILL

To promote maritime safety on the high seas and navigable waters of the United States, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*  
3 That this Act may be cited as the "Maritime Safety Act of  
4 1983".

## VESSEL OPERATIONS WITHOUT CERTIFICATE OF

## INSPECTION

7        SEC. 2. (a)(1) The owner, agent of the owner, or man-  
8        aging operator of a vessel required to be inspected by the  
9        Coast Guard under a statute of the United States, shall  
10       submit to the Secretary of the department in which the Coast



1 Guard is operating, not later than sixty days before the cur-  
2 rent certificate of inspection of the vessel expires, a request  
3 for inspection for certification or a notice that the vessel will  
4 not be operated so as to require an inspection.

5 (2) A person violating subsection (a)(1) is liable to the  
6 United States Government for a civil penalty of not more  
7 than \$1,000.

8 (b)(1) Unless otherwise provided by law, the owner,  
9 agent of the owner, or managing operator of a vessel required  
10 to be inspected by the Coast Guard under any statute of the  
11 United States found by the Secretary to have knowingly op-  
12 erated a vessel that does not have a required certificate of  
13 inspection is liable to the Government for a civil penalty of  
14 not more than \$10,000 for each day in violation.

15 (2) The Secretary may direct the owner, agent of the  
16 owner, managing operator, or individual in charge of any  
17 vessel that does not have a required certificate of inspection  
18 to have the vessel return to mooring and remain there until a  
19 certificate of inspection is issued or to take whatever immedi-  
20 ate steps are necessary for the safety of the vessel, those on  
21 board the vessel, or the environment. An owner, agent of the  
22 owner, managing operator, or individual in charge who fails  
23 to comply with a direction issued by the Secretary under this  
24 subsection is liable to the Government for a civil penalty of  
25 not more than \$10,000 for each day in violation.

1 (c) Before the Secretary may assess and collect a civil  
2 penalty for violation of subsections (a) and (b) of this section,  
3 the Secretary shall give the person notice of and an opportu-  
4 nity for a hearing on the charge. The Secretary may remit,  
5 mitigate, or compromise any penalty until the matter is re-  
6 ferred to the Attorney General. If a person against whom a  
7 civil penalty is assessed fails to pay that penalty, an action  
8 may be commenced in the district court of the United States  
9 for any district in which the violation occurs.

10 (d)(1) Section 5 of the Act entitled "An Act to require  
11 the inspection and certification of certain vessels carrying  
12 passengers", enacted May 10, 1956 (70 Stat. 153, 46 U.S.C.  
13 390d), is amended in subsection (a) by striking out "shall be  
14 liable to the United States in a penalty of not more than  
15 \$1,000 for each such violation," and inserting in lieu thereof  
16 "is liable to the United States Government for a civil penalty  
17 of not more than \$5,000 for each day in violation," and is  
18 amended in subsection (b) by striking out "shall be liable to a  
19 civil penalty of not more than \$1,000.", and inserting in lieu  
20 thereof "is liable to the United States Government for a civil  
21 penalty of not more than \$5,000 for each day in violation.".

22 (2) Section 13 of the Act entitled "An Act to amend the  
23 laws relating to navigation, and for other purposes", enacted  
24 May 28, 1908 (46 U.S.C. 398; 35 Stat. 428), is amended by  
25 striking out "shall be liable to a penalty of \$500 for each

1 offense" and inserting in lieu thereof "is liable to the United  
2 States Government for a civil penalty of not more than  
3 \$5,000 for each day in violation."

4 (3) Section 4499 of the Revised Statutes of the United  
5 States (46 U.S.C. 497) is amended in the first sentence by  
6 striking out "shall be liable to the United States in a penalty  
7 of \$500 for each offense, one-half for the use of the inform-  
8 er," and inserting in lieu thereof "is liable to the United  
9 States Government for a civil penalty of not more than  
10 \$5,000 for each day in violation, and".

11 (4) Section 4500 of the Revised Statutes of the United  
12 States (46 U.S.C. 498) is amended by striking out "shall be a  
13 fine of \$500, recoverable one-half for the use of the inform-  
14 er" and inserting in lieu thereof "shall be a civil penalty of  
15 not more than \$5,000 for each day in violation. The penalty  
16 shall be assessed by the Secretary of the department in which  
17 the Coast Guard is operating".

18 (5) Section 1307(d) of the Merchant Marine Act, 1936  
19 (46 U.S.C. 1295f(d)), is amended by striking out "shall be  
20 fined not more than \$10,000 or imprisoned for not more than  
21 one year, or both, for each offense" and insert in lieu thereof  
22 "is liable to the United States Government for a civil penalty  
23 of not more than \$10,000 for each violation of this section."

1           VESSEL OWNER REPORTING REQUIREMENTS

2           SEC. 3. (a) The Act entitled "An Act to provide for the  
3 establishment of life-saving stations and houses of refuge  
4 upon the sea and lake coasts of the United States, and to  
5 promote the efficiency of the life-saving service", enacted  
6 June 20, 1874, is amended—

7           (1) by striking out sections 11 and 12 (33 U.S.C.  
8           362-363) and inserting in lieu thereof the following  
9           new section:

10          "SEC. 11. (a)(1) When the owner, agent of the owner,  
11 or managing operator of any vessel of the United States has  
12 reason to believe (because of lack of communication with or  
13 nonappearance of the vessel or any other incident) that the  
14 vessel may have been lost or imperiled the owner, agent of  
15 the owner, or managing operator shall immediately notify the  
16 Coast Guard.

17          "(2) When more than forty-eight hours have elapsed  
18 since the owner, agent of an owner, or managing operator of  
19 a vessel, required to report to the United States Flag Mer-  
20 chant Vessel Location Filing System under the authority of  
21 section 212(a) of the Merchant Marine Act, 1936, last re-  
22 ceived a communication from the vessel the owner, agent of  
23 the owner, or managing operator shall immediately notify the  
24 Coast Guard.

1       “(3) An owner, agent of the owner, or managing opera-  
2 tor that notifies the Coast Guard under paragraph (1) or (2)  
3 shall include a statement of the name and official number of  
4 the vessel and any additional information requested by the  
5 Coast Guard. The owner, agent of the owner, or managing  
6 operator shall also send written confirmation within twenty-  
7 four hours of notification to the Coast Guard.

8       “(b) Any owner, agent of the owner, or managing oper-  
9 ator who violates subsection (a) is liable to the United States  
10 Government for a civil penalty of not more than \$5,000 for  
11 each day in violation.

12       “(c)(1) The master of a vessel of the United States, re-  
13 quired to report to the United States Flag Merchant Vessel  
14 Location Filing System under the authority of section 212(a)  
15 of the Merchant Marine Act, 1936, shall report to the owner,  
16 agent of the owner, or managing operator at least once every  
17 forty-eight hours.

18       “(2) A master who violates paragraph (1) of this subsec-  
19 tion is liable to the United States Government for a civil  
20 penalty of not more than \$1,000 for each day in violation.

21       “(d) After notice and an opportunity for hearing, a  
22 person found, by the Secretary of the department in which  
23 the Coast Guard is operating, to have violated a part of this  
24 section or a regulation prescribed under this section is liable  
25 to the United States Government for the civil penalties im-

1 posed under this section. The amount of the civil penalty  
2 shall be assessed by the Secretary, by written notice. In de-  
3 termining the amount of the penalty, the Secretary shall con-  
4 sider the nature, circumstances, size of vessel, extent, and  
5 gravity of the prohibited acts committed and, with respect to  
6 the violator, the degree of culpability, any history of prior  
7 offenses, ability to pay, and other matters as justice requires.  
8 The Secretary may compromise, modify, remit, or mitigate a  
9 civil penalty imposed under this section until the assessment  
10 is referred to the Attorney General. If a person fails to pay  
11 an assessment of a civil penalty after it has become final, the  
12 Secretary may refer the matter to the Attorney General for  
13 collection in an appropriate district court of the United  
14 States.

15       “(e) The Secretary may prescribe regulations to carry  
16 out this section.”.

17       (b) Section 15 of the Act entitled “An Act to promote  
18 the welfare of American seamen in the merchant marine of  
19 the United States; to abolish arrest and imprisonment as a  
20 penalty for desertion and to secure the abrogation of treaty  
21 provisions in relation thereto; and to promote safety at sea”  
22 enacted March 4, 1915 (33 U.S.C. 365), is amended by in-  
23 serting “operator,” after “owner,”.

1 (c)(1) Section 502 of the Merchant Marine Act, 1936  
2 (46 U.S.C. 1152), is amended by adding at the end of subsec-  
3 tion (i) the following new subsection:

4 “(j) To the extent provided in advance by appropriations  
5 acts, the Secretary of Transportation may enter into an  
6 agreement with the owner of a United States vessel of more  
7 than one thousand gross tons that is engaged in foreign com-  
8 merce to provide for not more than 50 per centum of the cost  
9 of the purchase and installation of a marine satellite telecom-  
10 munications system.”.

11 (2) There are authorized to be appropriated to the Sec-  
12 retary of Transportation \$5,000,000 for the fiscal year  
13 ending September 30, 1985, and \$5,000,000 for the fiscal  
14 year ending September 30, 1986, to carry out section 502(j)  
15 of the Merchant Marine Act, 1936 (as provided in this sub-  
16 section).

17 **LICENSED PERSONNEL ACCIDENTS**

18 **SEC. 4.** The first sentence of section 4450(d) of the Re-  
19 vised Statutes of the United States (46 U.S.C. 239(d)) is  
20 amended to read, “All acts in violation of any of the provi-  
21 sions of title 52 of the Revised Statutes or of any of the  
22 regulations issued thereunder, whether or not committed in  
23 connection with any marine casualty or accident, and all acts  
24 of marine incompetency or misconduct, whether or not com-  
25 mitted in connection with any marine casualty or accident,

1 committed by any person licensed or certificated by the Coast  
2 Guard, and all marine casualties and accidents and the  
3 attendant circumstances shall be immediately investigated as  
4 provided in subsections (a) and (b) of this section.”.







## STATEMENT OF ADMINISTRATION POLICY

November 10, 1983  
(House)

H.R. 3486 - Maritime Safety Act of 1983  
(Jones (D) North Carolina)

The Administration has no objection to House passage of H.R. 3486, but will seek amendments in the Senate.

\* \* \* \* \*

Mr. STUDDS. Thank you. Are there other members who wish to make statements? Very well. Our first witness is Rear Adm. Clyde Lusk, Chief of the Office of Merchant Marine Safety. Admiral, welcome back.

### STATEMENT OF REAR ADM. CLYDE T. LUSK, JR., CHIEF, OFFICE OF MERCHANT MARINE SAFETY, U.S. COAST GUARD

Admiral LUSK. Thank you, Mr. Chairman. Good morning, Mr. Chairman.

Mr. STUDDS. Good morning. You are on your own.

Admiral LUSK. Thank you, sir.

Mr. Chairman, I am Rear Admiral Clyde T. Lusk, Jr., Chief of the Office of Merchant Marine Safety, U.S. Coast Guard headquarters. Merchant marine safety is a fundamental goal of the Coast Guard and the Department of Transportation. As Director of the Coast Guard's commercial vessel safety program, I am most pleased to appear before you to address this subject of mutual interest.

Merchant marine safety, as we use the term, encompasses the implementation of a broad range of statutes and international conventions which, to a degree, regulate the construction, manning, inspection, admeasurement and documentation of certain merchant vessels as well as the licensing of their personnel.

Such implementation will be easier, more uniform, and better understood upon much needed passage of the revision to title XLVI of the United States Code which is now before Congress. Simultaneous ongoing effort to review and update implementing regulations and to publish long-standing internal interpretations and policies are complementing the statutory revision effort and will improve the effectiveness and acceptance of the program.

The merchant marine safety program has few material resources and has traditionally been quite personnel intensive. We have tried of late to reduce that personnel intensiveness where possible without loss of effectiveness or inordinate adverse impact on the public.

Such efforts have involved all major components of the program and include some delegations to third parties; reductions from 49 licensing offices to 17 regional examination centers; new vessel documentation regulations, documentation computerization, and a re-

duction from 108 to 15 regional documentation offices; an altered approach to casualty investigation; increased acceptance of recognized industry standards in lieu of detailed Federal regulations; and changes in our plan review and overseas new vessel inspection program. Public acceptance of these changes has generally been good, with most expressions of concern apparently being the result of a misunderstanding of our intent.

We are pleased with progress made toward improved training of our inspection personnel and are finally in sight of our long-awaited marine safety inspection system. Our international efforts have been primarily responsible for the adoption on June 17 by the International Maritime Organization in London of the second set of amendments to the Safety of Life at Sea Convention of 1974.

These amendments will greatly increase world merchant vessel safety, with primary emphasis on lifesaving equipment, and will significantly reduce the disparity between U.S. safety requirements and those of our trading partners. With implementation of those amendments there will be virtually no difference between the foundation of our safety construction and equipment regime and that of the rest of the world. We consider our international involvements to be particularly successful.

I hope I have briefly painted a picture of a program that is updating its regulatory approaches, increasing its cost effectiveness, implementing all of your mandates, and achieving the U.S. goals in the international arena. We think that is the case, but we are not without problems.

Casualties still occur and most represent a failure of our system. Each is investigated to determine cause and responsibility in the hope that repetition can be avoided through better engineering, inspection, training, licensing, or enforcement—but the issue is very frustrating. The marine environment is harsh, hostile, and seldom forgiving, and we have the difficult responsibility of assuring safety while simultaneously avoiding overregulation and assuring favorable regulatory cost benefits.

It is little consolation to the injured or to the loved ones of those lost to suggest that casualties will always be a part of the workplace at sea, yet such may well be the case. That is our primary frustration.

Vessel aging brings with it increased requirements for maintenance, problems in obtaining spare parts, and different inspection emphasis—and our fleet is relatively old. To give some perspective in this regard, consider that 38 percent of the U.S. fleet over 500 gross tons is 30 years old or older, while only 0.2 percent of the world's largest fleet, that of Liberia, is of such vintage.

While we are attempting to determine any correlation between age and casualties and are continuing our attempts to assure proper inspection of a vessel despite her age, it is obvious from the small amount of new construction that the average age of our fleet may well continue to creep upward.

What this means is that many of our ships are operating with safety technology and construction techniques that are over three decades old. Casualties, however, run the gamut from new to old vessels and most old vessels continue to operate with excellent

safety records—a combination of circumstances that suggests the complexity of the problem that we face.

The *Marine Electric* was 39 years old when she sank off the Virginia Capes on February 12, 1983; and the *Ocean Ranger*, a state-of-the-art semisubmersible that was fitted with the most sophisticated of lifesaving equipment, was but 6 years old when she sank on February 15, off of Nova Scotia.

How well are we doing? The determination of safety benefits is difficult because of the necessity to measure an event that has been avoided.

All of the various gauges that are utilized to evaluate program effectiveness suffer from a certain arbitrariness and uncertainty. Direct effects are more easily measured than general environmental degradation. To some degree, our effectiveness depends upon the statistician who determines it.

For example, between 1976 and 1980 the loss rate for the U.S. fleet was approximately 5 vessels per 1,000 when looking at vessels 100 gross tons and above. If, instead, one examines losses for vessels greater than 500 gross tons, the rate was 2.4 vessels per 1,000, a significant difference. We are able to look at the program in terms of relative effectiveness when compared to other fleets.

But here too, even excluding differences in fleet age, one should be aware of the subtleties which can exist and the limiting parameters which are used in making comparisons. For example, 77 percent of the U.S. self-propelled fleet but only 2.6 percent of Liberia's fleet is less than 500 gross tons.

Data from Lloyd's Register of Shipping gave us the means to compare loss rates for vessels 500 gross tons and over during the 1979-80 period for 8 maritime nations. That data showed a world average of approximately 6.5 vessels lost per 1,000 and a range of losses which went from Panama at approximately 19 losses per 1,000 and Greece with approximately 5 losses per 1,000 to Norway at approximately 0.5 losses per 1,000 and the United States at approximately 2 losses per 1,000. Although, as I mentioned, statistics can be deceiving, our inspected fleet is simultaneously old and very safe in comparison with the fleets of the world.

Mr. Chairman, I do not suggest that the Coast Guard's merchant marine safety program has met all of its challenges, but we are facing them head on.

As Secretary Dole said in a recent speech, "One thing that must not change is our unabiding respect for human life and the need for safety. Maritime safety is very much a part of the all-out, all-modes effort of the Department of Transportation to make transportation safer.

"As Secretary of Transportation I have no higher calling than to make transportation safer." The Coast Guard is fully committed to that view and welcomes the opportunity to discuss our program with you today.

Mr. STUDDS. Thank you very much, Admiral. What is the current status of the Marine Board investigation hearing into the sinking of the *Marine Electric*?

Admiral LUSK. The *Marine Electric* investigation has convened a number of times, sir, and is to reconvene, I believe, on Monday down in Portsmouth, to get some additional evidence. Of course,

the report won't be in until some time subsequent to that reconvening.

Mr. STUDDS. From 1980 until the time of her sinking, what was the Coast Guard inspection history with regard to the *Marine Electric*? There is no need for precision, or great precision, on that. You can sketch it for us.

Admiral LUSK. I do have some indications of the inspections that she had. She was drydocked in December 1980 at Providence, R.I. In June 1981 she received an inspection for certification; that is what we call our biennial inspection, sir. On July 2, 1981, she received a special inspection at Providence. That was an underwater examination of the hull that followed an alleged grounding. It turned out that there were only paint abrasions. In December 1981 there was a boarding at Providence. December 1981, another boarding. These are boardings by our Marine Safety Office. In January 1982 there was a hydrostatic test of the boiler at Hampton Roads, no deficiencies.

February 1982, the vessel was boarded by our marine safety people at Baltimore. March 1982, again in Philadelphia. June 1982, she was given the midperiod inspection, that is, the inspection that falls between the 10th and the 14th month of our biennial period, sir, at Providence, R.I.

In November 1982 she was boarded at Providence, and in December 1982 she was given a special inspection as a consequence of the owners' request for an extension of drydock. That was performed at Providence, and I believe that is all.

Mr. STUDDS. That sounds very extensive. From the point of view of marine safety, is it important that a merchant vessel possess cargo hold hatch covers that are watertight?

Admiral LUSK. Yes, sir. The word that we use, sir, is weathertight, not watertight.

Mr. STUDDS. Is it a legal requirement that hatch covers are weathertight?

Admiral LUSK. This appears in the load convention as well as in the regulations.

Mr. STUDDS. Then by what mechanism or by what sanction does the Coast Guard enforce that requirement?

Admiral LUSK. The Coast Guard enforces it by looking at the hatch covers. Let me say that there are four or five mechanisms, sir, that overlap:

One, the Coast Guard inspector does have the burden of assuring that the hatchcovers are weathertight.

Two, we have delegated to the American Bureau of Shipping responsibility for load line enforcement, and the load line enforcement includes a responsibility for openings and closings of the vessel, and that includes the hatches.

Three, the master has a specific requirement in the regulations to assure that those pieces of equipment are adequate.

Four, there is a statutory requirement that all officers, all licensed officers in the merchant marine, take note of any deficiencies, and advise us. That is the combination, sir.

Mr. STUDDS. During the period from 1980 until the sinking, did any Coast Guard inspection report site deficiencies in the condition of the hatch covers of the *Marine Electric*?

Admiral LUSK. I am not aware of any that did, sir.

Mr. STUDDS. Did the Coast Guard during that period ever order or witness repairs in the hatch covers?

Admiral LUSK. To the best of my knowledge, from the record that I have seen, I know of no such witnessing of repairs.

Mr. STUDDS. Admiral, I have one final question, and I want to apologize in advance to you and to the members. I am going to ask you to comment on a fairly lengthy set of observations which I am going to cite to you.

The Coast Guard conducted an inspection for certification in July of 1981 on the *Marine Electric*. The chief warrant officer who did the inspection was conducting his first solo inspection of a deep draft vessel. He said he had previously accompanied other inspectors while examining two or three tankers.

He said that he previously examined cargo hatchcovers one or two times in company with another inspector. The inspector could not recall whether the hatch covers were open or closed during the inspection, so he did not know whether he had actually seen the surface of the covers. The inspector estimated that he spent 30 or 45 minutes looking at them, but he doesn't recall noting any doubler plates or distortions in the hatch covers. He said that the condition of the covers would have been acceptable.

He admitted that he never saw the covers closed, and therefore had no reason to know whether the covers were weathertight. He said he was unfamiliar with the characteristics of McGregor hatch covers because he had never seen them before; but he claimed to have seen no holes in the panels.

A company examination of the hatch covers in cargo holds 5 weeks later found more than 50 holes, various areas of wastage, denting, fractured pipes, leaks, warped panels, and fractured wheels.

On the surface, these facts would seem to raise some serious questions about the adequacy of training provided the Coast Guard inspectors, about the experience of Coast Guard inspectors, and the competence of at least this particular inspector. On the surface at least it would seem that he neither knew what he was looking for nor how to go about conducting an inspection of the hatch covers, and one fears possibly the rest of the ship as well.

The mid-period Coast Guard inspection conducted in June 1982 was performed by an officer who had never before inspected a vessel with hatch covers, and who had never been told how to inspect them. The hatches were open and he said he paid little attention to the covers. That same inspector boarded the vessel 6 months later to decide whether to OK the *Marine Electric* for a delay in its scheduled drydock inspection.

Once again he didn't notice the hatch covers. He did inspect and approve the lifeboats, one of which was recovered after the sinking, and which showed a heavy buildup of corrosion, weak plates, roll locks which would not fit, a missing life line, and part of a missing grab rail. As a result of his examination, the scheduled drydock of the *Marine Electric* was delayed from February until April. Unfortunately, as we know, the vessel never made it to April.

I wonder, Admiral, if you would care to comment about all of this, and offer us the perspective of the Coast Guard on this.

Admiral LUSK. Well, sir, on the surface it certainly does appear as though our inspector could have done a better job. I don't know the man, but it certainly does appear as though he could have been a lot more attentive to the hatch cover inspections. I wouldn't have expected the inspector who did the inspection incident to the drydock extension to have paid much attention to hatch covers, because that is typically not what we look for when we go down to do an inspection incident to an extension of a drydock. However, the inspector should have spent more time, should have been more knowledgeable about hatch covers.

It might well be, sir, that in a port such as this in Providence, a relatively small port, it might well be that they were for some reason strapped for personnel. It might well be that the inspector was placing too great a reliance upon the delegations that we made to ABS, and he might well also, Mr. Chairman, have been placing a bit too much reliance on the somewhat logical position that the owner might well be carrying out his responsibilities, particularly in such areas as hatch covers, because these are the sorts of things I would expect to find owners doing properly, trying to keep their cargo dry. But it does look as though our inspector did less than a perfect job, and I can't argue.

Mr. STUDDS. The gentleman from North Carolina, the chairman of the committee.

Mr. JONES. Thank you, Mr. Chairman.

Admiral, I have several questions. Section 2 of H.R. 3486 provides that the vessel owner, agent, or operator is responsible for notifying the Coast Guard at least 60 days before the vessel's certificate of inspection expires. This would be a legal requirement backed by a civil penalty, and it is intended to discourage owners, agents, or operators from allowing inspection certificates to expire.

How does the Coast Guard view this measure as opposed to the current system which is not specific as to who is responsible for notification?

Admiral LUSK. Mr. Chairman, I think that would provide a much desired degree of clarification. Certainly many owners, I would say most owners, understand the situation now, but that clarification would certainly do a lot of good, sir, and the penalties that are provided would certainly encourage compliance. We view it with favor, sir.

Mr. JONES. Thank you, Admiral.

Can you give us an indication of the extent to which inspection certificates are allowed to expire by vessel owners?

Admiral LUSK. As a general rule it doesn't happen too often, sir. It happens frequently if we are talking about a barge fleet, for instance, not to suggest that expirations of certificates on barges are unimportant, but sometimes when we have a rather large barge fleet, the owner will allow a few vessels, as he would frequently say, to drop through the cracks. It doesn't happen often enough that I can say it is frequent, but it happens often enough to be disturbing, sir.

Mr. JONES. In such cases, what has been the Coast Guard's general course of action?

Admiral LUSK. As an officer in charge of marine inspection in the past, my typical reaction was to recommend to the District

Commander that an administrative penalty be assessed. If, however, we had a vessel that was a manned vessel, maybe a small passenger vessel, rather than assessing a penalty, we might recommend that charges be preferred against the master of the vessel who was sailing it before an Administrative Law Judge, sir.

Mr. JONES. Perhaps you have answered this next question. Does the Coast Guard ever remove a master's license for operating a vessel without an inspection certificate?

Admiral LUSK. Yes, sir. That typically will happen in the small passenger vessel category. You have a lot of owner-operator situations, and frequently we will assess, or rather we will recommend that action be taken against the license rather than administrative penalty.

Mr. JONES. Admiral, considering that atmospheric is offered as the primary reason for vessels outfitted with radio communications not recording, and considering the communications equipment can occasionally malfunction, how would the Coast Guard deal with the problem of determining when the master has been at fault for not reporting as required by section 3(a) of H.R. 3486?

Admiral LUSK. As I understand it, sir, and the operations program is not part of my responsibility, but as I understand it, there is some concern within the Coast Guard that the reporting requirement, particularly in view of the equipment that is out there now, the radio equipment that is out there now, could possibly cause such a plethora of reports to come in that might oversaturate our search and rescue capability. We might have a lot of vessels that were being reported as not having been in communications which had communications difficulties and which were not really in trouble, and we would be diverting our resources to try to find them, possibly at the expense of not having the resources to find someone in true need. My answer ties into the adequacies of the communications system itself, sir.

Mr. JONES. As I understand it, the MSIS vessel inspection module is being designed so that the system will be capable of identifying vessels due for various Coast Guard inspections and that the system will be able to bring a hard copy document which will outline previous inspection information including any problem areas. This will obviously improve the current paper file system and should improve the efficiency of the Coast Guard marine inspection.

Will the MSIS system automatically isolate vessels which are due for inspection, giving the Coast Guard a chance to notify vessel owners that their inspection certificate has expired or is about to expire?

Admiral LUSK. Yes, sir, it will do that. We view the MSIS system as something that will totally revolutionize our ability in this area, sir. We have been working on this, to my knowledge, for at least 9 years, but it will have the feature that you describe, sir, and we will be able to make those notifications.

Mr. JONES. Finally, Admiral, I understand the Coast Guard is currently working with the Maritime Administration in the development of a rulemaking intended to merge the AMVER/USMER vessel location system. When is the system expected to become operational?

I also understand the Coast Guard has considered designing the new system so it would be capable of automatically identifying vessels which failed to report over 48 hours. Can we expect this capability to be built into the new system, and what is the Coast Guard's primary concerns regarding this idea, if any?

Admiral LUSK. Sir, this again is a bit beyond my program area, so I don't have really a complete answer for you, but the Coast Guard has been working with MARAD and did sign a memorandum of understanding with them relative to the change of the USMER and the AMVER systems. That combination is supposed to go into effect on the first of August of this year. The memorandum has been signed and the system should be going, the combination, as of the first of August.

The Coast Guard has also been conducting a study such as you suggest. There are some problems relative to funding, relative to funding and programing, sir, and I don't believe that they have progressed sufficiently to the point where they have identified all of the problems or the funds that will be necessary. But I can provide a more complete report for you for the record, sir, but that is as much as I have.

Mr. JONES. Thank you, Admiral. I appreciate it, and thank you for your answers. I yield back.

Mr. STUDDS. The gentleman from Alaska.

Mr. YOUNG. Thank you, Mr. Chairman.

Admiral, I just have two questions following my opening statement. I don't know that we can pass any laws that will make any vessel safe just because the Coast Guard is involved in it. I just want to know what are you doing about the responsibilities delegated to the American Bureau of Shipping or any other primary organizations for inspection authority?

I think one of the weaknesses that the Coast Guard has had is the turnover of inspectors, and I speak with some experience. As you know, you have an inspection 1 month, then 3 months later another inspection, and it will be a different finding by the Coast Guard. That is not a healthy situation. Are you proceeding with your delegation process? Just give me a breakdown on that.

Admiral LUSK. Yes, sir. The problem of turnover is one that has caused us a lot of distress too, because it is more than just turnover. It is one that bears on such things as training and the basic adequacies of our staff out there.

We have tried in the last 2 years to do quite a few things to change that, sir. First of all, we tried to increase the stability, the length of our tours of people, and Admiral Gracey has authorized and we are now on a 4-year rather than a 3-year rotation for our people, and we are trying, at least I am trying, to get a fifth-year if possible. So, we have greatly increased our ability in that fashion.

Second, we have tried to cut down the number of people in our training pool. I mentioned in our opening statement that I thought we were overly manpower intensive. We are doing an awful lot of things that required an awful lot of training of our people that I thought we could probably delegate out, and so we have done a certain amount of things to reduce manpower intensiveness, and we have taken several hundred people out of my staff of inspectors,



several hundred people I do not have to train anymore, and we have done that in a number of ways.

One, the consolidations of our licensing offices, the consolidation of our documentation offices, a change to our proceedings for investigation, and of course the delegations to the American Bureau of Shipping. We do plan on having more delegations to the American Bureau of Shipping. We have had three within the past, I would say, 24 months.

We have another one that I have been working with, Mr. Johnston, the president of ABS, on a further delegation in the area of stability associated with loadlines. They have loadline responsibility from us and have for many years, but they have never had the stability determinations associated with that. We are giving them that.

And then there is an additional delegation that we are planning that will give them more in the area of new construction.

Now as we have been able to give them more, we have been able to reduce the number of our staff, and as the final point, of course, we are trying to change our training program, and I just received the authority of the commandant recently to change the training program of the officers stationed in a particular office.

We have heretofore tried to train all of them during their first 3- or 4-year tour, as investigators, licensors, inspectors, and the like, and now we are going to concentrate instead and allow more specialization.

Mr. YOUNG. Admiral, this is well and good. Again, I have been one to believe that you can do what you have been attempting to do through the private sector, where you have continuous bonded inspectors knowing the ship. I think that is crucially important. As the ship is being used, you can watch deterioration, what hasn't been done, and what should have been done.

I am following through a little on Mr. Jones' bill. I believe he has suggested that the captain have a little more responsibility. I, myself, as a captain, would have never probably ever taken the ship that went down to sea, if everything said is true, if the hatches weren't properly sealed, if they were not in place, regardless of the inspection. I can't imagine the captain doing that.

A captain of an aircraft has total say-so whether he should take off or should not take off. No one commands the aircraft but the captain, not the control tower, not the owner. If he decides that the craft is unairworthy, it doesn't fly, and I think the captain has a responsibility as well as the crew, and I am going back through the history of the *Marine Electric*.

I got word the crew was in the galley drinking coffee. It terribly disturbs me that a ship would sail with apparently the unseaworthiness that did occur without somebody being responsible other than the Coast Guard. We could have had all the laws in the world, and that ship would probably have still sunk. I don't know whether the chairman's bill will solve these problems, but there have to be other responsibilities to the crew and to the captain. Just comment on this.

Admiral LUSK. Yes, sir. First of all, I certainly do agree with your statement, but I would like to point out that the captain has a very high responsibility that he gets in several places.

First of all, it is inherent, it should be bred into them, but we also have a specific requirement in the regulations that indicates certain things that the master of the vessel has to do, and among the things that he has to do are included the assurance that the vessel is seaworthy and fit for the service and route in compliance with the certificate of inspection. That is all in the regulations already.

Mr. YOUNG. Pardon me, he did not do that apparently.

Admiral LUSK. He apparently did not, no, sir. Well, let's say that the facts as we have had them described suggest that he might not.

Second, we do have a specific statutory requirement that puts upon all officers, and this includes the captain, of course, a requirement to assist the Coast Guard in their examinations. This is section 234, title XLVI, United States Code, sir, to assist the Coast Guard in their examination of vessels to which such licensed officers belong, and point out all defects and imperfections known to them in the hull, equipment boiler, and machinery of the vessel.

Now a very great problem that is bothering me relative to the *Marine Electric* is statements that I read in the press relative to, and I haven't examined the transcript and the case isn't in yet, but relative to officers who have suggested that they didn't point out defects that they knew to exist on the *Marine Electric*, because of the economic situation.

They were apparently apprehensive, at least from what I read, they were apparently apprehensive that the Coast Guard would require repairs to be made and that the financial situation of the vessel was such that the vessel might be laid up, and that the situation of jobs in the merchant marine was such that they might not get another job. So as a result, according to the news, they had indicated that they didn't tell us.

Now we depend very greatly on people telling us those things, sir, and my growing up in this system and all the tours that I have had in commercial vessel safety has led me to rely very heavily upon the cooperation of the master and upon the cooperation of the licensed officers. We do our best, but we really do a form of spot check. We can't during our inspections with the manpower we have say we have looked at every weld or that we have done non-destructive testing to assure that the vessel won't sink. We place a very, very great reliability upon the officers exercising their responsibility.

If the economy has caused a change in that system, sir, then we are indeed in trouble, and that is causing me a lot of concern right now.

Mr. YOUNG. What happens—and it goes back to the continuity of the inspector—once the ship is overhauled and it is inspected say from top to bottom with the cooperation of the master, in the case of the *Marine Electric*, that some of the pumps were inaccessible I believe, bilge pumps and things that could relieve some of the pressure were sealed off. That was a known fact.

Once they find these things out, and the vessel can be inspected by the same individual who knows what he is looking for, relies on the captain or the engineer, whoever may be involved, and builds up a history of the weakness of the vessel, and then say after 4 years he is transferred, he could move that on to someone else, so

we know basically what to look for in any inspection and make the captain more responsible.

I think there ought to be a risk of a civil penalty or criminal liability where he has the possibility of losing his license. I think he would do a much better job, regardless of the economics, because if we found out he had fudged on his reporting and his license would be suspended for a period of time, he would be more willing to co-operate.

Maybe I am being a little rough here, but I suggest it is the only way we will ever be able to enforce the law. There has to be that two-way street, because you can't know everything wrong with that vessel, if you inspect it without continuity. If you go on board a vessel; myself, if I went on board a vessel; and didn't know anything about it, it would take a month to find all the weaknesses on the vessel, if not told where the weaknesses were.

It is just an impossibility. I think we are on the same wave length, and I hope the bill that Mr. Jones is proposing can solve some of these problems, not only giving you responsibility or the private sector, but it has to go to the owner of the vessel and mainly the captain, the first mate, second mate right on down the line. They have a responsibility to themselves as well.

I have no further questions, Admiral. I think that these are my own personal feelings as to what should be done.

Admiral LUSK. If I could make a comment, Mr. Chairman.

Mr. STUDDS. Go ahead.

Admiral LUSK. We haven't had any problems in my experience with getting the cooperation of the licensed officers. We have relied upon that. This is the first time I have experienced this phenomenon, and I certainly hope it is the last.

Relative to the continuity of inspections from our point of view, we feel that we have been sadly lacking for many, many years in our ability to keep track properly of the true condition of the vessel, not only the true condition of a vessel, but the problems that have been associated with vessels of her class, which may or may not be manifested in her, and also the problems associated with major components not only of vessels of that class but other classes.

Now one of the things that was in our mind when we first came up with the concept of the marine safety information system was to solve this problem. We have gone a little bit further than this, but back in 1972-73 we were keeping all of the inspection records in the files of the office where the vessel was inspected. There was no way where a vessel that came into New York, for instance, which had previously been inspected in Los Angeles, there was no way with the full inspection files that the full inspection files would be made available to the inspector in New York.

Now the marine safety information system is going to have in its data bank all of the information that we have about the vessel, the sisters to the vessel, and the major components of the vessel. When the inspector finds out that he is going to be inspecting the vessel, he asks the computer. He gets a number of screens and he can get a taped copy, and he sees what the experience has been.

Of course, this information will also be available, since it is public information, it will also be available to the owner, so it

might well be that this system will provide the mechanism that you are seeking and that we are seeking, sir.

Mr. YOUNG. I thank you. With modern technology, it seems that way we can have instant recall of say the history of the individual vessel, the same type, et cetera, and apparent weaknesses, the longevity of the vessel. I think it can be done. I don't think it is an impossibility. Thank you, Mr. Chairman.

Mr. STUDDS. The gentleman from New Jersey.

Mr. HUGHES. Thank you, Mr. Chairman. Thank you, Admiral.

Let me, if I might, just follow up on a similar line of questioning to that of my colleague from Alaska. What is the status of the marine safety information system now? Is it fully operational?

Admiral LUSK. No, sir, it is not. It is one that probably has given me as many of the white hairs in my head as anything else has. It has been very difficult to bring on line the whole MSIS system, but we are now getting into the final stages of it. Vessel documentation module should go on line in November 1983. The port safety module will go on line in December of this year also.

Vessel inspection itself, which is one of the big ones, goes on line in May of next year. We expect to have the remainder of it, and that includes plan review, pollution control, construction, vessel casualty and violations on line subsequent to that and finished by the spring of 1985.

Mr. HUGHES. So you do have the hardware.

Admiral LUSK. Yes, sir, we have the hardware.

Mr. HUGHES. The software has been developed for the program.

Admiral LUSK. Yes, sir. We have most of the software. We have all of the hardware. The software for several of the modules is fully developed, and part of the system is in virtual nationwide operation, and much of it is operational in a prototype.

Mr. HUGHES. So if, for instance, an inspection is to be pulled in New Orleans, the system can pull records out of Philadelphia or elsewhere throughout the country and utilize that in connection with an upcoming inspection.

Admiral LUSK. This is the way it will be done. Right now we do have most of the information in the inspection area in New Orleans, but we do not have it in Philadelphia.

Mr. HUGHES. But it will be a nationwide system.

Admiral LUSK. Oh, yes.

Mr. HUGHES. That seems to be major progress.

Let me ask you about what is happening to the fleet. As I understand the statistics, this Nation has three times the number of older vintage vessels than any other maritime nation. In fact, as I understand it, the average major maritime nation only has about 2 percent of their vessels over 30 years whereas our country's vessels over 30 years runs about 20 percent of the fleet. Is that the case?

Admiral LUSK. I think ours is probably higher than that if you use—it depends, of course, on the size of the vessel that you use.

Mr. HUGHES. Do your figures show that that is not accurate?

Admiral LUSK. I do have some rather sophisticated figures, more sophisticated figures than I have here that I will be glad to provide to the committee, but essentially my figures show that 38 percent of the U.S. fleet over 500 gross tons is 30 years old or older.

Mr. HUGHES. Thirty-eight percent.

Admiral LUSK. I have 38 percent 30 years old or older.

Mr. HUGHES. How does that compare with the world average?

Admiral LUSK. I am not sure; I don't think I have those figures with me.

Mr. HUGHES. Can you supply those for the record? I have some figures that would indicate the world average is about 2.4 percent, but I am not sure what tonnage we are talking about, that are over 30 years of age. Would you supply that information for the record?

Admiral LUSK. Yes, sir; I certainly will.

[The information was not received in time for printing.]

Mr. HUGHES. In the last 4 years, Admiral, the commercial vessel safety program has seen a shrinkage in the number of personnel. In 1979, as I understand it, we had about 2,053 personnel committed to this program area, reduced over the years we saw the Coast Guard budget shrinking and in difficulty, to somewhere around 1,798, about 1,800 personnel today, at a time when the age of the vessels has been increasing, we have had increased problems.

How in the world can we possibly really maintain an active inspection system, computer technology included, unless we commit more personnel? The needs are increasing, not decreasing.

Admiral LUSK. There is no question but that we could find a use for more personnel, but we have tried very carefully in the past several years to reduce our manpower intensiveness in such ways as will almost totally eliminate the possibility that we decrease safety. This has really been done very carefully.

I can't say that we have increased safety while taking those several hundred people out of the program, but I am quite positive, because I did it myself, that the steps that we took and the reductions that we took were ones that should have guaranteed the same level of safety.

What we essentially did was take from our field offices an amount of work per year that was as best as we could determine, and we have pretty good standards, the exact equivalent of the number of people that we took out. So for every 50 people that I took out, I took out 50 man-years of work. We did that by the regionalization of our documentation offices, our licensing offices, our various other programs that I mentioned in my opening statement, by our delegations to the American Bureau of Shipping, and by changes in our investigation techniques. I am quite positive that we have not reduced safety as a result of the reduction of those people.

Mr. HUGHES. You know, Admiral, I respect what you have said, and I realize the constraints under which you operate. Everyone of you folks who come in here and testify, advance the premise that, given the budgetary constraints, you minimize the impact, you have done the best that you can with the resources that you have with the missions that are assigned to you. But the fact remains that we should be increasing, not decreasing, the inspections.

It has been very difficult for the Coast Guard to inspect as regularly as they should, provide the in-depth inspections that are needed, for the simple reason you haven't had the manpower. You are pulled within from one priority to another.

Once we have an oil spill, then all of a sudden oil inspections become a high priority. We have an influx of marihuana and co-

caine to the point where we are up to our eyeballs in that, and then we make major commitments to that particular mission of the Coast Guard. You are just pulled in so many different directions that I am amazed that you are able to do the job you do with the dollars you have.

The fact is that it is not enough to say that we haven't reduced the level. What is needed is an increase in the level of safety. It is just unacceptable to see so many results. We are not even talking about the level of commercial fishing vessels, which you don't have the resources or the mandate to accomplish. I have seen in my own area of southern New Jersey four fishing vessels in the past year or so go down with tremendous loss of life, and in some instances I am not at all persuaded that there are not things that we could have done that could have prevented the loss of those lives.

I don't think it is a matter of maintaining the same safety level. I think the level that we have maintained is adequate, and we are not going to be able to provide, even with your new marine safety inspection system on line, the level of safety that is needed for these vessels unless we commit more resources to it. A computer can only do a certain amount of work.

Are you familiar with the article that was carried in the Philadelphia Inquirer May 1 to May 3 of this year entitled "Death Ships, How the United States Sends Rustbuckets To Sea, Sailors To Their Graves"? It was done by Robert R. Frump and Timothy Dwyer. Are you familiar with that series?

Admiral LUSK. Yes, I read them.

Mr. HUGHES. They did a very excellent job, very indepth job of reporting, very comprehensively done, very well analyzed. Their conclusions seemed to be very decisive.

Admiral LUSK. There were some distortions in the article, sir.

Mr. HUGHES. I am sure that when you cover such a large area you are bound to have some questions as to whether it is all in perspective. But the conclusion that is reached is not that one different from one I reached a long time ago. We are just kidding ourselves. We think that as our vessels age and develop more problems that we can handle this mamouth task by providing inspections to save lives and cargo, first lives, unless we commit more resources.

Mr. Chairman, I wonder if I might offer this for the record? I think it is something that is worth reading, and I would ask unanimous consent that it be admitted in the record.

Mr. STUDDS. Without objection, it is so ordered.

[The news article follows:]

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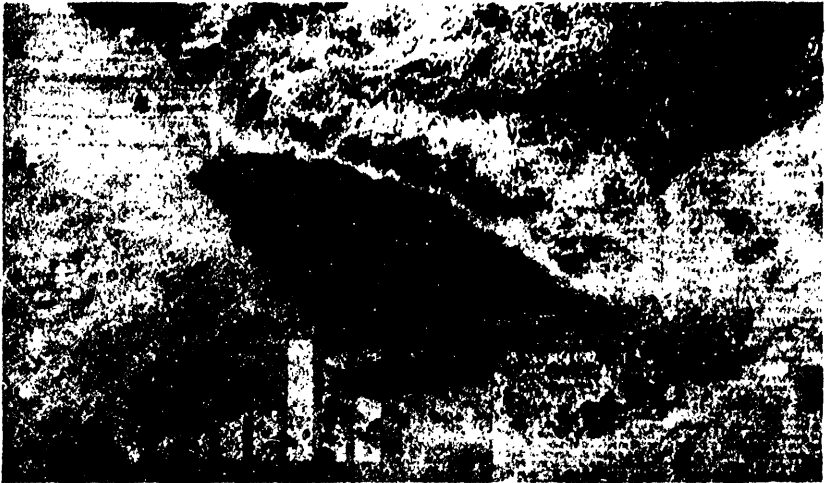
## DEATH SHIPS

### *How the U.S. sends rustbuckets to sea, sailors to their graves*



The 26-year-old Marine Electric pulled 24 men to their deaths

Government aid programs have created a billion-dollar inducement to keep old, run-down American ships at sea. But with alarming regularity, those ships are taking sailors to their deaths. In this series of articles, Inquirer staff writers Robert R. Frump and Timothy Dwyer explain how America's self-defeating maritime policies continue to send unsafe ships to sea and threaten the lives of the nation's merchant seamen.



The last view of the Marine Electric as it slipped beneath the waves on Feb. 32

U.S. Coast Guard

## DEATH SHIPS

# Maintaining America's fragile fleet

By Robert R. Frump  
and Timothy Dwyer

In the early morning hours of Feb. 12, an old ship was laboring in a wister gale, making little headway in the North Atlantic 20 miles off the coastal barrier islands of Virginia. For hours, waves, some of them 20 feet high, smashed over the bow. Her five hatch covers were worn, thin and crudely patched with perry and tape. Her deck was rusted and cracked. The pumping system to remove water from her holds was inoperative. A hole in her hull had been patched with the bottom of a coffee can and patched with cement.

At 26, she was a nautical relic, twice the normal retirement age of the world's merchant vessels. Aboard was a crew of 24 Americans. In her holds was 24,000 tons of coal. Her name was the Marine Electric, and her fate was sealed.

By any safety standard, the Marine Electric should not have been at sea. But she was, because government maritime policies had made it profitable for her to be there.

As the storm intensified, the ship's bow struggled to clear itself from the ocean and failed. Water pounded the first hatch cover, then surged back over the second and third.

Imperceptibly at first, she began to fall lower in the water and to list. At position 27 degrees 31 minutes north, 74 degrees 46 minutes west in the pre-dawn darkness of 4:10 a.m., she jerked just a bit, then there came "the sound of the water going out of a bathtub amplified a billion times." Her whistle screamed abandon ship. Crewmen jumped or fell through the frigid air into the icy water as she rolled over on her side.

When help came about two hours later, only two officers and one deck hand were still alive. Thirty-one men were dead, and the Marine Electric was lost.

But the system that sent her to sea and sent most of her crew to their deaths sails on — guaranteed, propped up and subsidized by the U.S. government.

Billions of dollars in government maritime subsidies, intended to promote the construction of a modern American merchant fleet, have perished, done the opposite — created a fleet of ancient and dangerous U.S. ships that have been taking American seamen to their deaths with alarming regularity.

Government policies — fought for

and won by both industry and labor and passed into law by Congress — have ensured the perpetuation of what has become, literally, a death fleet.

Many of the ships in that fleet are so decrepit they could not begin to pass U.S. Coast Guard safety regulations. They go to sea anyway. They do so with the complicity of industry, labor, Congress and the Coast Guard itself.

And, sometimes, they don't come back. Since 1941, more than 350 American seamen have died in major accidents on old ships operating close to or beyond the 20-year recommended retirement age.

More than half of those deaths — 182 — occurred in accidents caused, or suspected of being caused, by major structural, mechanical or design failures of the old ships. Forty of those men died in the last 2 1/2 years on ships more than 20 years old.

The oldest American fleet sails, and merchant seamen die, for a very simple economic reason. Demand for American ships is assured by government policy, but supply is limited. U.S. law reserves cargoes for the American fleet, ensuring demand. But very high construction costs in American shipyards — sometimes triple those in foreign yards — mean few new ships are built.

Consequently, the U.S. merchant fleet, once the largest and most modern among major trading nations, has deteriorated into the oldest and least efficient, dependent on vessels too old to operate economically under any other flag.

Once the dominant carrier of goods around the world, the American fleet now transports only a tiny fraction of international cargoes, despite government subsidies and other aid totaling more than \$1 billion a year.

Leaders in industry, government and labor have blamed the dramatic decline in the American fleet on the harsh forces of international economic competition, including cheap foreign labor and other government subsidies their own ships.

But the system of subsidies they concocted to counteract those forces has not stopped the American fleet from shrinking. What it has done instead is send more U.S. ships to sea and crews to their deaths.

In case after case, an inquirer review of the old ships of the U.S. fleet

## Who owns the world's oldest ships

WORLD TOTAL 7,269 OLD SHIPS	
Rank ordered equals 72.66 ships or 1% of world total number.	
UNITED STATES-1,325	
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## DEATH SHIPS

found that age-related equipment failures consistently have placed the vessels in potentially catastrophic situations as their hulls creak and their engines grow old.

Yet in the eyes of the maritime establishment of America and to safety overseers, the U.S. Coast Guard, the reports on the casualties of the aged ships might as well not exist.

There is no forced retirement age for ships in the U.S. merchant marine. Indeed, a large segment of the U.S. maritime industry establishment argues that age is not a factor in ship safety, but experts reviewed by the Inquirer show again and again that it is.

So the ancient American merchant fleet sails on.

There is, for instance, the *Posey*, a rusting 30-year-old bulk carrier that has broken down time and again in recent years carrying government-impounded cargoes.

Like the *Posey*, more than 22 percent of the U.S. fleet is more than 20 years old, compared with only 24 percent of the world fleet.

Or ships like the *Pilgrim*, a decrepit 12-year-old freighter with holes in its deck and hull. It sank last in 1979 carrying government grain to Africa.

Like the *Pilgrim*, 38 percent of the U.S. fleet is officially overage for cargo-transference purposes — 39 years old or more. Only 11 percent of the world fleet is that old.

Like the *Martine Electric*, 12 of the 26 American bulk carriers — which carry grain, coal and other important cargoes in world trade — were more than 20 years old in 1980.

Since then, two of the old bulk ships, the *Martine Electric* and the *Posey*, have sunk, killing 65 men. Another, the *Posey*, burned out its engine at sea and no longer steams. Eight of the 17 remaining vessels are of the same World War II tanker design as the *Martine Electric*.

"These ships are just too old," said an engineer who had worked on them. "There comes a time when a ship just plain wears out."

The ancient vessels continue to fail whether they are operated by large companies or by tiny one-ship corporations created to exploit the government-subsidy and cargo-preference programs.

The *Martine Electric* was owned by Marine Transport Lines Inc. (MTL), a subsidiary and profitable subsidiary of the GATX Corp., one of the nation's largest transportation conglomerates.

Yet MTL also has a long record of maritime disasters and near misses on old ships, squeaked among America's ship companies in the last 20 years.

In 1961, 39 seamen were killed when the MTL's *Martine Schuyler Queen*, a converted World War II tanker, sank in the Gulf of Mexico in the worst maritime disaster in the last two decades.

In 1961, the *Martine Merchant*, an MTL freighter, sank in the North Atlantic off Portsmouth, N.H. The converted World War II freighter suffered a massive structural failure of the hull.

In 1977, seafarers narrowly escaped injury as they scrambled on foot to escape when the *Martine Puritan*, an out-of-control MTL chemical tank-

12 worst U.S. merchant ship disasters in last 20 years					
SHIP NAME TYPE OF SHIP	DEATHS AND INJURIES	DATE OF DISASTER	CARRIER/ OPERATOR	CAUSE—COAST GUARD CONCLUSIONS	
REAGAN-BALPHOUR QUEEN Jumbo T-2	36	2/14/63	M.S. Transport Co. Marine Transport Lines	Unknown structural design and hazardous cargo possibly contributed	
V.A. FORD Jumbo T-2	36	2/17/72	Mass Corp. Tosco City Tankers	Unknown; possible explosion	
PANOLINE PATH C-2 WWII freighter	36	10/9/67	Panacosta Tankers	Flooding of hold	
PORT C-2 (freight transport)	36	10/26/66	Needham Seafoods Corp. (Boston)	Unknown; possible hull failure	
TEXAS MASSACHUSETTS Private freight	33	6/16/66	Tosco Inc.	Navigation error	
MARINE ELECTRIC Jumbo T-2	31	2/12/63	Marine Transport Lines	Unknown; testimony says hull was not watertight	
TEXAS OILMAN Panacosta freighter	31	2/27/71	Tosco Inc.	Massive structural failure	
EDWARD FITZGERALD Great Lakes ore carrier	29	11/10/79	Northwest Mutual Life Colonial Transport Div.	Poorly maintained hull, incorrect load line, heavy weather	
DANIEL MORRILL Great Lakes ore carrier	28	11/29/66	Cummins Steamship Corp. Baltimore Steam Co.	Massive structural failure	
QUEEN—Chambers* CONVENT—Tosco*	0 26	1/31/76	Kryssan Shipping M. Liberty	Navigation error	
CAYMAN—Jumbo T-2* BLACK THORN—S-C G. Carter*	0 25	1/28/60	Aqua Marine U.S. Coast Guard	Navigation error	
BADGER STATE C-2 WWII freighter	21	12/26/66	Swiss Marine Lines Military Sea Transport Serv.	Poor loading and design	

Source: U.S. Coast Guard Marine Casualty Reports

\*Tosco was a charterer

Philadelphia Inquirer/JOHN H. QUINN

ship, remained a bridge spanning the James River at Hopewell, Va. A Coast Guard investigation ruled that the ship had been dangerously overloaded.

The MTL ship failures represent a fraction of the life-threatening failures that occur with lumbering the *Queeny* aboard old American ships, where failure is the rule rather than the exception.

The basic case of the government's chaotic maritime policies is perhaps best illustrated by the long, troubled history of the World War II-era class of T-2 tankers to which the *Martine Electric* belonged.

The first warning that all was not right with the T-2s came Jan. 16, 1961 A.T. 2 p.m., the War Shipping Administration accepted a T-2 called the *Scheuchzer* after she completed her sea trials.

At 10:30 that night, without explanation, while tied up at the dock, in calm water and weather, the *Scheuchzer* simply broke in half.

Four months later, while leaving New York harbor, another T-2 — the *Race Manhattan* — also split in two.

Those two sinkings marked the beginning of a long period of analysis of the T-2s and strenuous efforts to correct their problems.

Some theorized that "inboard stress" caused the sinkings. That theory was disproved. Then crash-divers were involved. But the T-2s continued to fail apart.

In January 1952, the T-2 tanker *Preservative* sank off the Pacific Coast. More than 80 men were lost. A 14-foot crack was later found in its hull.

The next month, a T-2 called the *Port Mercer* crashed in two off Cape Cod. Five men trapped in her bow section died.

On the same day in the same year, another T-2 — the *Preservative* — split in two, killing nine officers and crewmen.

In each of these cases, the formal Coast Guard boards of investigation noted the weakness of T-2 tankers. In each case they recommended further study. And in each case, the command of the Coast Guard and officials of the American Bureau of Shipping suggested improvements.

In some cases, for example, steel bolts were strapped around the vessels.

As the T-2s grew older, their retirement might have solved the problem.

Indeed, by the early 1960s, the T-2s were being scrapped by other countries, such as Britain.

But not in America. Instead, ship companies were being altering the old T-2s to permit them to carry more cargo. "Jumboized" was the term.

The jumboizing took place even as T-2s continued to fail apart. The *Pine Ridge* broke into two pieces in December 1968, killing seven men.

Then in 1962, there came a disaster

so horrendous that simple study was not enough — even for a conservative U.S. Coast Guard Marine Board of investigation.

The *Martine Sulphur Queen*, a T-2 converted into an experimental sulphur carrier, sank in the Gulf of Mexico. All 39 men aboard were lost, leaving only one clue as to their fate — floating in the water was a life preserver with a scrap of a crewman's shirt hanging from it. Teeth marks of large predatory fish were found in the preserver.

No reason for the sinking was ever determined. But the officers investigating the loss of the *Sulphur Queen* were faced not with one or two or three or four or even five T-2 failures. Their report in 1964 stated:

"The board has extensively considered the possibility that the casualty in this vessel was caused by a complete longitudinal failure of the vessel's hull girder causing it to break in two. There are many factors bearing on this issue. Basically, consider as this type vessel is concerned, the evidence indicates that there have been few known cases of complete fractures of T-2 type tank vessels."

"That this type of casualty has persisted after the problem has been thoroughly studied and measures taken to prevent the same, tends to support the view held by some that this type of vessel has basic design imperfections which cannot be feasibly corrected."

The Board's recommendations were stark.

"In the future the same conversion of another T-2 type tanker should not be approved. Further, it is recommended that no other conversion of this type vessel should be approved which deviates from the originally designed features for the carriage of normal petroleum products."

But those recommendations were rejected by the commandant of the Coast Guard. He said future conversions of T-2s should be considered on a ship-by-ship basis, not on the design characteristics of the class.

Only one recommendation seemed to stick.

"In view of the complete structural failure of several T-2 type tank vessels, and in view of the fact that such type failure may have contributed to the instant casualty, it is recommended that all T-2 type tank vessels be equipped with two (inlet side life rafts, one to be located in the vicinity of the forward deckhouse and the other to be located in the vicinity of the afterhouse."

In other words, T-2s broke in two so often that a life raft should be near the bow so that men stranded there would have a better chance of escaping.

That change was ordered by the Coast Guard. But in later reports on T-2 casualties, it was as if the board of inquiry's warning about the T-2 structural problems had never been

## DEATH SHIPS

written

By the time a federal district judge determined in 1970 — seven years later — that the Marine Sulphur Queen was unseaworthy and that the 730 as a class were structurally "unreliable, to say the least," he had not yet 10 cases of structural failure to cite. He had 15.

Still, the 73 conversions did not stop. Indeed they continue to this day.

In fact, one company has proposed purchasing four of the ships as platforms for the incineration of hazardous wastes at sea.

The 73s comprise half of this country's bulk fleet. And more than 60 of this country's 290 tankers are old 73s.

The Coast Guard's continuing recommendation that the safety of each ship be judged by its condition and its age or "class" has been hardly worked — despite the presence of skilled inspectors and the stringent maritime code of safety in the world.

The Marine Electric had safety violations galore when it sailed from Norfolk on its last voyage.

The Coast Guard has failed to stop unsafe ships from sailing in the same way that housing code enforcers have failed to stop unsafe houses from spreading in the nation's big cities.

If all the codes were enforced, there would be no place for many of the poor to live.

If all shipping orders were enforced, America might lose more than a third of the ships it uses to carry its cargoes. Strong safety rules cannot be enforced when the whole of the economy provides powerful impetus for them to be ignored.

A shipping executive who once worked for Henry J. Bonabel, who has operated a number of old and unsafe vessels explained the curious economics of the ancient ship, saying as an example a vessel managed by Bonabel called the California.

"Marion Shipping ran this ship into the West Coast in the sugar trade between the U.S. West Coast and Hawaii," recalled the executive, who asked not to be identified. "There was an informal agreement, an unstated agreement between the inspector and Marion. Keep the ship running for a little while longer, okay, but then it goes to the scrap pile."

"Then, when all economic utility long had been exhausted, Marion turned around and sells it to Bonabel's company, which takes it to the Seattle Coast Guard and gets it certified there."

"It takes \$120,000 a day to repair to run one of these ships, and \$200,000 for your drydock at the end of the year."

"Bonabel doesn't budget any time he just loads these old tubs up with government grain and takes it as it comes. Finally I couldn't take it any more and quit."

Bonabel had denied owning the California, but US Agriculture Department records indicate that he was responsible for the ship at the time of the grain shipment.

Bonabel and others like him have sailed their ancient and frequently unsafe ships with the help of the U.S. government, which has granted them millions to construct to carry government-sponsored cargoes.

The old ships continue to sail be-

cause the whole thrust of U.S. maritime policy — the economics of that policy — has forced them to. Since the 1960s, when the deficit of U.S. shipping power first became apparent, Congress has enacted legislation requiring government, military and foreign-aid cargoes, plus all domestic cargoes, to be carried in American ships with American crews.

U.S. shipping lines also have been provided with government operating subsidies to help them remain competitive in the world's shipping trade. American shipyards have been given still more government money to help them compete with shipbuilders abroad.

But the billions spent by the government have been wasted.

The U.S. merchant marine means as nearly double the operating cost of foreign competitors with crew and officers costs that are triple the going world rate.

New ships built in America cost at least twice as much and take two to three years longer to manufacture than those built in foreign yards.

Since only small numbers of new American ships have been built, since the law says American ships must be used to carry domestic and foreign cargoes, these carriers end up being carried by old, inefficient and frequently unsafe vessels.

The consequences of these facts have been grim for the maritime transport of major industries in America have lost such a high proportion of their market share in the past war era — from 40 percent of U.S. ocean-going trade to less than 4 percent over 20 years.

Instead of helping to revitalize the U.S. fleet to compete in world markets, the government subsidies and preference programs have become the principal markets themselves.

By 1960, for example, fully 83 percent of all U.S. exports were carried under cargo-preference programs designed to aid U.S. ship operators competing in international markets.

And they are carried in great cost to taxpayers, shippers or both.

Since 1937, the government has paid \$6.1 billion to compensate U.S. ship operators competing in world markets for higher crew and operating costs on American vessels (about half that has come since 1970).

\$3.2 billion has been paid since 1970 for the direct subsidy of merchant ship construction in U.S. yards. And the government has granted \$7 billion more in loans to finance U.S. shipbuilding.

The government has required that American ships be used to import oil to fill the nation's Strategic Petroleum Reserve, but it costs up to three times as much to bring the oil here in U.S. ships as it would to use foreign vessels. The cost to the taxpayer, an extra \$60 million a year.

The military, using U.S. ships to move its cargoes abroad, must pay about \$200 million a year more than what it would cost to ship the goods at world rates.

Cargo-preference laws requiring that half of all government-sponsored cargoes be carried on American ships add an additional \$200 million to the annual cost of maritime subsidies.

Laws requiring that all cargoes carried between U.S. ports be carried in American ships add an estimated



'THE MARINE SULPHUR QUEEN,' a World War II tanker, sank in the Gulf of Mexico in 1963, taking 39 seamen to their deaths

\$150 million to the nation's shipping bill.

In 1961 alone, the cost of direct and indirect government aid to the nation's maritime industry totaled more than \$1 billion, an amount more than seven times larger than the Coast Guard's marine-safety budget.

Believes convinced to develop a modern American merchant fleet have had the effect of producing the worst merchant fleet in the world. A cost of billions.

The cost of policy is most acutely measured by this: Nearly 3,000 old merchant ships, many of them up to 50 years old, still sail under the U.S. flag, moving at costs sometimes five times those of ships five times their size.

A 73 tanker, for example, burns about 300 barrels of oil a day, some modern super tankers burn only 70 barrels.

Often, the old ships are owned not by U.S. night companies, but by blue chip corporations including Du Pont Co., Reynolds Metals Co., Sealed, United States Lines and the U.S. government itself.

Regarding the owner, the ships frequently break down or suffer mechanical and structural damage simply because they are old.

These examples of casualties from Coast Guard files show the pattern of problems.

As built in 1944, the Marine Eagle, a chemical ship owned by Du Pont and operated by MTL, lost its power in Beaumont, Texas, in 1960 because of the "corrosion and age of the in-board fuel boiler."

As built in 1944, the Point Julie, a tanker owned by the Birch Shipping Corp., suffered serious structural failure in the Atlantic in 1961. Its side shell plating fractured after the ship's interior framing system partially collapsed. Watertight doors collapsed, too. Tons of seawater entered the vessel, flooding the holds.

As built in 1944, the SS Jacksonville, a container ship owned by America's most successful liner company, Sealand Services Inc., lost its propeller at sea in 1961 as a storm approached. The cause "poor condition of the ship's boilers and equipment."

As built in 1945, the Point Susan, a bulk ship owned by the Point Venture Corp., was hired in 1961 to deliver to Egypt a government-sponsored cargo of grain to replace that carried by the Port when that ship sank in 1960. But the second ship ran into problems itself. It lost power in heavy seas after a motor burned out. The cause: a short circuit in a part of the motor "last rewound in 1948."

As built in 1944 the SS Tranco New Jersey, a tanker owned by Texaco Inc., lost power in January 1971 in heavy fog off South Atlantic City. Months later, it lost steering in Long Beach harbor. In 1968 it lost power again. The Coast Guard classified all problems as material failures.

As built in 1945 the Potomac, a bulk carrier owned by Potomac Transport Inc., was traveling down Philadelphia's congested channel to the sea in 1960 when a foggy pin dropped from the steering post, throwing the ship out of control. Efforts to stop it, reversing engines and full throttle, the engine control out because of "wearing or grooving of the control piston on the main turbine. The vessel ran aground."

As built in 1945, the Inger, a bulk carrier owned by Reynolds Metals, suffered a foot-and-a-half-long crack in its hull in 1969. Investigators found that "excessive vibration from a bent blade on the ship's propeller" probably caused the crack.

As built in 1942, the SS Monmouth, a tanker, lost power as it was entering New York harbor in July 1960. "The probable cause was attributed to old and deteriorated insulation."

Repeatedly chartered by Keystone Shipping Co. of Philadelphia, had run into trouble just the month before with a fire in the engine room. "The probable cause of this casualty was a buildup of rust and scale deposits at the bottom of the port boiler through ring," the Coast Guard concluded.

These dangerous ships are clearly not economically competitive in international trade. Their only use is to exploit domestic trade and cargo preference laws, for which a U.S. hull and crew guarantee entry into the bestfurn.

Even after a maritime disaster, there are no penalties — or very weak ones — for operators who fail to care for their ships.

Another vessel, owned by Bonabel, the Pilgrim, was found to have holes in its hull and deck after grain shifted during a voyage. The Coast Guard investigators concluded that the owner and the Coast Guard itself had failed to act with due diligence.

Yet neither Bonabel nor any Coast Guard officer was formally charged for these failures. Even if they had been, typical penalties for such activity would be only \$500 — an amount equal to one-third the typical daily repair budget for one of the old ships, or one-tenth of such a ship's daily operational costs.

Even without the club of fines, the investigation of the Pilgrim case might have served to warn Coast

Guard inspectors to keep a close watch on Bonabel's ships. And on grain shipments on the old vessels.

Yet no further review of the Coast Guard's handling of the Pilgrim case showed that more than three years after the incident, copies of the Coast Guard report on it still had not been distributed to the Coast Guard field offices where the effectiveness of the inspection had been questioned.

The undistributed reports failed to mention that Bonabel was operating the Pilgrim, although some Coast Guard officials said they knew that fact.

In the shifting world of corporate and ship identities that constitutes an important segment of the American shipping industry today, it is difficult to trace who owns and operates many of the aging vessels in the U.S. fleet, and there is no Coast Guard system to track the histories of vessels with dangerous defects.

Of such flimsy material is the Coast Guard safety net constructed. And through the gaps in that net have vanished the officers and merchant seamen who rode the old ships.

Even larger established companies such as MTL, listed as one of the nation's top 100 defense contractors, have been negligent.

It was on an MTL vessel — the Marine Electric — that the hatches would not close properly, even right after a Coast Guard inspection and drydock.

At a Coast Guard hearing on the ship's sinking, the manufacturer of the hatch covers and related equipment questioned whether the vessel and its own hatches were seaworthy. There was also a hole punched in the hull that had gone unreported to the Coast Guard. (Steel plates patched its deck. A lifeboat had compartments painted black and was missing vital equipment.)

Large corporate owners consider the very old ships marginal to their fleets — desperately in need of replacement, sucking away huge amounts of funds for repairs.

Yet their replacement cannot be justified economically.

"The only way to make enough money to replace assets like old ships is to achieve as much efficiency as you can," said a high officer of one of the country's more efficient ship companies.

Yet the system of government operating subsidies and the inefficient crew they breed continues to be supported by special interests — government, labor and the maritime industry.

"I could've been said that our industry appears to like the problem better than the solution," said Charles Hiltzbeimer, chairman of Sealand, in an article written in 1971.

Ship operators split up camp, it said. It is no camp within camps. There are general cargo carriers. And then there are bulk carriers.

There are subsidized general cargo carriers and unsubsidized general cargo carriers. There are subsidized bulk carriers and unsubsidized bulk carriers.

Each interest has told Congress and the executive branch a different story of what is wanted and needed to improve the nation's merchant fleet. Each has helped fool the plans of the others. And each has contributed to the chaos of American ship-

## DEATH SHIPS

# Evidence shows that dangers lurk on ships sailing past their prime

ping today.

While maritime interests sometimes squeal at other times they continue in old alliances to perpetuate ineffective policies.

Ship operators, shipbuilders and unions representing their workers always have lined arms when approaching Congress and maritime policy always has linked them together.

The alliance has won legislation helping the shipyards by requiring that U.S.-flag ships, vessels receiving cargo preference or ships in the domestic trades must, for all practical purposes, be built in U.S. yards. The government also has subsidized the building of U.S. ships.

The ship operators and seamen have won operating subsidies and matching requirements for the American ships they sail.

"It is very easy for everyone to pass on the cost of the subsidies," said a lobbyist in Washington for shipping concerns. "The unions support the Congressmen through campaign donations. The Congressmen support the subsidies for the operators. The operators don't make any effort to cut back on the numbers of crew men."

Yet so steeply have U.S. building costs risen that the alliance is no longer nearly questionable to those industry observers it is isolated. U.S. ship operators simply cannot compete on the high seas in international trade in American-built ships, even with the operating subsidies.

Still, the alliance endures — some say because the union leaders of the small numbers of seamen need the extra clout brought by the thousands of shipyard workers. Those alliances have killed attempts at reform, and they have helped in rules that, for instance, require crew sizes on most U.S. ships to number as many as 45 men — while Japan runs 25 for the same vessel.

They have hindered any effort to create a national maritime policy that might produce an efficient fleet that could be of use for national security purposes instead, they have fostered an enormously expensive system of government aid and subsidies.

Year after year, as massive aid has flowed into the maritime industry, the U.S. merchant fleet has declined, leaving jobs on American vessels have dropped from 10,000 after World War II to a little more than 20,000 recently. As the nation's fleet has grown older and more dangerous, American sailors have continued to die.

Yet unions representing the seamen contributed more than \$25 million to 1981 and 1982 political campaigns in their effort to perpetuate the government policies that have sent unsafe ships to sea.

American merchant seamen these days are desperate for jobs — any jobs — and are forced to accept work on such vessels if they want to be paid.

They know the ships are unsafe. But they cannot walk away. They cannot afford to refuse the work. "If the Marine Fleet got pulled in here tomorrow I'd get on board," said Gregory Brown, 31, at the Philadelphia hiring hall of the National Maritime Union. "I've got a wife, two kids and a mortgage and I haven't worked in six months."

By Robert R. Frump  
and Timothy Dwyer  
Staff Writers

The question of whether a ship's age affects its safety is still controversial in the maritime industry. A sizable portion of the industry and high-ranking government officials maintain that a ship's age is irrelevant.

"The age of a ship does not constitute a defect," said William E. Oates, public affairs officer of the Maritime Administration, mid during a 1981 interview. "Because a ship is old, because the grain ships are old, that does not automatically mean they are unsafe."

Yet an inquiry review of reports of more than 180 ship hull and structural failures and hundreds of Coast Guard files shows that very old ships — particularly those from the World War II era — frequently have safety problems.

The Coast Guard reports reviewed contain dozens of age-related failure of equipment that led to scores of problems for the old ships, ranging from engine breakdown at sea to hull fractures that have dragged men to their deaths. Buried deep within the plumbing, wiring, and structural reports of the old ships are faults that go undetected until they cause malfunctions.

The SS Daniel J. Morrell, for example, an old Great Lakes bulk ship, sank in Lake Huron in November 1964 after a massive structural failure. The hull girder of the shipyard old vessel had fractured in icy water.

Of the 29 men aboard, 28 died. The U.S. Coast Guard report on the sinking concluded that a major factor in the disaster was the old steel used in the ship. Further, it concluded that it would be very difficult for inspectors to discover that sort of problem.

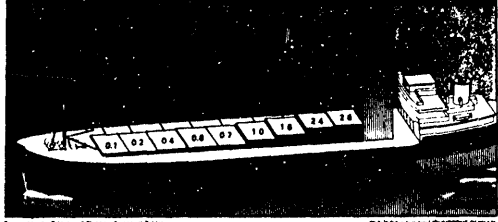
This pre-1940 steel generally has a high-transition temperature and is therefore susceptible to brittle fracture," Coast Guard commandant W. J. Smith wrote in his report.

Fatigue as a result of repeated stress-cracking over a long period of years can and does result in local structural deterioration in the form of fatigue cracks," he added. "This type of deterioration may be difficult to detect despite diligent inspection."

The National Transportation Safety Board (NTSB) joined in that case, urging a careful safety review of all the old Great Lakes ships, which then were approaching an average age of 45 years. The board weighed the consequences for commerce of "grounding" or replacing the old fleet against seamen's lives. In a letter to the Coast Guard the NTSB said:

"While we fully appreciate the economic aspects involved in methods that would prevent failure of hull girders, from a safety standpoint, we recommend that you consider further action as follows:

## Who relies most on aging vessels



Source: Lloyd's Register of Shipping Statistical Tables

Philadelphia Inquirer/Donna O'Connell

**While the prevailing view is that age is irrelevant to a ship's safety, a review of Coast Guard files shows that old ships often have severe material problems. Buried deep within the old structures are faults that go undetected until they cause problems, ranging from engine burn-out at sea to hull fractures that can drag seamen to their deaths.**

able. The Port disappeared on that voyage, and its 34 crew members were lost. No one has concluded exactly how the Port sank.

But a subsequent Coast Guard investigation noted that inspectors had allowed temporary instead of permanent repairs when the Port's hull was damaged in 1973. Instead of repairs, were again allowed after a fire in the cargo hold caused a fracture in the Port's main deck that same year.

The Coast Guard commandant, Admiral J. B. Hayes, concluded: "The commandant considers it more probable that some loss of hull integrity is how the hull occurred. The age of the ship, the fact that it deferred repairs to both under-deck hull and topdeck and the severity of the storm are factors to be considered."

The issue of age comes up several times in reports of serious casualties involving ships owned by Marine Transport Lines, the company that owned the Marine Electric.

The report on the Marine Sulphur Queen, a converted World War II tanker that sank in 1963 with its crew of 26, stated: "It is now rather generally recognized, although previously a contrary view was held, that the age of a vessel has some relationship to structural failure."

The report on the sinking of the Marine Merchant 22 years ago concluded that the structural weakness of that World War II era freighter was a major factor in the sinking and that "the vessel's prior history of groundings, age, and sea water term pressure may have been contributing factors."

The records of those serious casualties are revealing, as are reports on dozens of other incidents involving

old ships, including potentially catastrophic breakdowns and material and equipment failures at sea.

Other Coast Guard reports raise the question of whether the prevailing view among maritime authorities — that age had no effect on safety — might not affect the conclusions of investigations into individual ship casualties.

For example, the 1977 sinking of the coastal tanker Chester A. Pilling and the loss of a crewman's life occurred, according to the official Coast Guard report, because of the "total structural failure of the hull girder" and because the midship part of the hull structure was weakened "due to deterioration."

There is no suggestion that age in and of itself may have weakened the ship and made it unseaworthy. In fact, the report appears to go to great lengths to avoid such a general conclusion, even though the vessel was 43 years old at the time it sank. Often after a serious casualty involving an aged ship, the Coast Guard will choose to fault the officers on board rather than the design of the ships or the owners.

For example, the old T-2 bulk carrier Smith Voyager sank, and four crew members died in 1964 after its cargo of grain shifted because of inadequate equipment and storage. The vessel listed 30 degrees, and tons of water gushed through supposedly watertight doors.

The Coast Guard commandant recommended a board of investigation's suggestion that the ship's owners and operators should be prosecuted for sending the vessel to sea in an unsafe working condition. But he agreed that the captain of the ship should be threatened with the loss of his license. The master, the commandant said, had abandoned ship too soon.

6 The Philadelphia Inquirer

## DEATH SHIPS

# Slipping beneath the waves

The *Marine Electric*, a rusted old ship, crudely patched, with holes in her hull and ill-fitting hatch covers, should never have gone to sea. But she did — with the Coast

Guard's blessing. This is the story of how she came to sail and how she took 31 men to their deaths on her final voyage, as told in part by three who survived.



The final glimpse of the *Marine Electric* as the 30-year-old relic plunged beneath the Atlantic Feb. 12, dragging 31 American merchant seamen to their deaths.

By Robert R. Frump  
and Timothy Dwyer

His ship was sinking. On the darkened bridge, Captain Phillip Cort reached for a life jacket, the last man to put one on. Now he was lunging to get his arms through the holes of the seaward vent when the Coast Guard rescuers radioed back. "What color are your lifeboats?" the Coast Guard asked. "State the color of your lifeboats," the radio spluttered. Eugene Kelly, the third mate, reached past his struggling

captain for the radio mike. "Orange," International orange," Kelly yelled back. The shrill whistle to abandon ship blew. Kelly found himself with a walkie-talkie in his hand, standing at the top of an interior set of stairs leading down to the lifeboat deck. The radio crackled. Engineer Michael Price was "all at his post, deep within the ship. Did the officers want the engine-room pumps tied down?" "Mike," Kelly yelled into the walkie-talkie. "Get the hell out of there. We are going down!"

Then he jumped from the stairs, the walkie-talkie tumbling in front of him. It shattered in pieces on the lower deck. He crashed on top of them and lay there for a moment, thinking, I've got to get out of here before we go down. Outside he rushed to this scene. Above him, Cort was climbing the rail of the deck, trying to get free of the ship. Below him, chief mate Robert Cusick was launching a lifeboat. The lifeboat lines were paying out, paying out, paying out. Seaman Paul Dwey was on the deck reaching out, reaching out, reaching out for a line.

The ship jerked. Dwey tumbled over the rail and into the water. The vessel righted and then, with a smacking noise "like the sound of the water going out of a bathtub amplified one billion times," the old ship turned onto its right side. The water seemed to just come up and meet Kelly. Dwey felt the meal of the ship pressing him down wherever he tried to swim up. The ship had capsized on top of him. Cusick, the old chief mate, was swimming, underwater as if in a dream, past the lighted porthole of

the cabin where he had stood just a moment before. He looked in. The room looked normal. He clamped against the steel and swam some more. Kelly just dipped easily into the water, only to see the huge stack of the ship poked like a banister above him. Now it was coming down, directly on top of him, and he could only look up at it. Freeze the scene at that moment in time. It is 1:16 a.m. Feb. 12, 30 miles off the Virginia Coast, and the men of the *Marine Electric* have begun the final chapter of the story of their

## DEATH SHIPS



Given over to the sea: 20 of the 31 crew members killed when the Marine Electric sank.

ship. It is a gripping story that could stand by itself, worth the sitting for what it has to say about courage, survival, tragedy and luck among human beings at sea.

Yet the prologue to that story — of how the Marine Electric came to sail powers past the age at which most ships are scrapped — is an compelling in its way, with moments as crucial as the scenes above.

An inquirer investigation into the loss of the Marine Electric, based on transcripts with survivors and relatives of lost crewmen, and review of Coast Guard records and testimony before the formal Coast Guard Marine Board of investigation show that the wreck of the Marine Electric should never have occurred. The ship's violations of Coast Guard safety standards should have kept her in port.

Members of the Marine Electric knew she was unsafe, and they were afraid. Many would not cross the Atlantic on the ship On occasions when the ship changed from its normal coastal trade route to transatlantic grain trips, these men would take their vacation rather than make the trips.

Some said they looked to the Coast Guard to rescue them if the Marine Electric went down on one of her normal coastal trips. For some, it was not a question of if the Marine Electric would sink, but when. The ship was riddled with deficiencies — a hole in its hull and hole in its hatch covers. Yet she sailed, in part because some inspectors by the Coast Guard and the American Bureau of Shipping were lax.

Checks of some crucial areas of the ship never took place, despite reports that indicated they had.

Other claimed inspections were reported as having been made on days when they could not have been done. A supposed hatch-cover inspection occurred when the ship had no hatch covers.

The result was that the Marine Electric, sailing out of Norfolk to its end and the death of 31 of its 34 crewmen, had holes in its hatch covers and hull, all in violation of U.S. safety regulations. Some of the holes and many of the temporary repairs went unreported by the ship's officers — also a violation of U.S. law codes.

Despite the ship's many flaws, the Marine Electric was certified by the

Coast Guard as seaworthy and given a Maltese Cross A1 by the American Bureau of Shipping — the highest rating for insurance and safety purposes.

It was the poor condition of the hatch covers that most worried Capt. Cuck, before he sailed. Cuck was second-in-command of the vessel. He had frequently complained about the covers to his superiors and had avoided transatlantic trips on the old ship whenever he could.

All this was far from his mind as he clawed along the steel of the capsized ship, his lungs straining. Past the lighted porthole, he found a railing and turned past it. His life jacket and air-filled polyester underwear popped him to the surface. He sucked in air.

Dewey was still underwater, his oxygen all but spent, still swimming up with biting steel. Then, on the edge of panic, it struck him: Up was down. He turned and swam down. He dove down against instinct and the buoyancy of his life jacket. He reached a rail and turned past it. Freed from the underwater trap, he shot up.

He broke surface like a cork and

spit up water, coughed and caught his breath. He swam on his back away from the capsized ship. He was surrounded by shipmates in the water.

"Help me, help me," they cried out. He would try to help them. He would do nothing but try to help them in the best hour.

Kelly was looking at the huge stack, still falling toward him through the air in a lacy web. He stared at it, frozen, he felt unable to escape.

A hand grabbed his life jacket at the scruff of his neck and dragged him through the water. The stack hit the water where he had been.

When Kelly looked up, he could see nothing. There was nothing to see except the strobe of the life preservers blazing eerily. No rescuers. No stars. No clouds. Nothing. The water was the same black. "Unbelievably black."

It terrified him. But there would be worse moments. When there was enough light to see, he would watch his men, his colleagues, his friends, just drift away on the water, into the interminable night. Only a half-bright held him to a life preserver; he clutched a seaman's red light in his hand.

Count other officers and crewmen knew what they had in the old ship. Still they sailed. They liked the Marine Electric for one reason and one reason only: It was the coastal trader.

The coastal trader meant steering from Norfolk with coal for Somerset, Mass., and back. Thirty-six hours up the coast, 36 hours back.

Dewey in fact felt lucky to have been hired 40 days earlier. The schedule meant only a few days at sea, compared with months in the transatlantic, deep-sea crossings. Family men could stay close to home. And the work was steady.

It was as third mate Eugene Kelly said a "milk-cow run." The old tally could have the transatlantic run, two weeks each way, with just their coats to stow at most of the men on the Marine Electric could park their cars at the Somerset power plant, when they came in, they could stop home, "like we were shore workers and get a night at home," Cuck said.

The bad news was that cargo carried between two U.S. ports must be moved on U.S. flag vessels — built in the States and crewed by Americans. And many of those vessels are old rustbuckets. "Almost 90 percent," Capt. H.A. Dowling of the Marine Transpore Line (MTL), owner of the Marine Electric, would say.

It didn't take experts to tell that the ships were rustbuckets. A month before the Marine Electric left on her last voyage, Sherie Browning visited the ship. Her husband, Steve, a ship's engineer, was working late. He said she might as well come down to the dock and hang around the ship watching television until he got through at midnight.

On the way, they drove by a sleek, new ship and Sherie asked her husband: "Is that your ship?"

No, it wasn't, he said. "Then we drove down to this little run boat in the back and I said 'Don't tell me this is it.' And he said 'Yes.' And I said 'My God' and thought to myself 'This thing is terrible-looking.' I'd be scared to go across the harbor in this thing."

The men who worked on the ship weren't afraid to go across the harbor. The ship's second mate, Clayton Robinson, for one, took last summer off and worked on the roof of his home while the Marine Electric delivered grain to Brazil because he didn't think the ship safe enough to make the trips.

Cuck, who had been a merchant seaman for nearly 60 years, had in fact declined to leave the ship because he would have earned more on the other vessel — would in fact have been shipped, not just chief mate.

Cuck might have learned the condition of the hatches of the Marine Electric and the other aging members of the U.S. fleet.

"Bill, you know what you got here, these old ships," he said at dockside to his old friend, William J.C. Long, a fellow officer of the Marine Electric. "You know these old ships, these hatch covers on these old ships."

The Coast Guard makes few rescues in the middle of the Atlantic. If the sea lanes sailing by the Marine Electric in the coastal trade were only about 30 miles out.

If the Marine Electric sank, Cuck knew the Coast Guard would be sent. "I'll always figure the Coast Guard would come out and get me," said he. He rejected the Marine Electric in November when the ship resumed its coastal route.

There was no room for talk of safety matters of the dock Thursday, Feb. 16, for the crew members were busy getting ready to sail and a long mechanical arm attached to Norfolk and Western Pier 1 was filling the Marine Electric's five cargo holds with 24,000 tons of granulated coal. A fierce winter storm that was to bury the East Coast under a record accumulation of snow was closing in. Sherie Browning's husband had no lingering farewell to his wife. She dropped him at the dock. He turned and said: "Put your foot to the floor of the truck and don't look back until you get home."

Still, she thought about turning back. She almost did — to see him. She felt something was wrong, but the thought passed, and the wheel home.

Captain Phillip Cort, who was substituting for the ship's permanent master for this run, had a last-minute thought too. He acted on it. His wife, Alice, was to have accompanied him on this trip. But the weather gave Cort pause. At the last minute, he sent her ashore.

By 11 p.m. the loading was done. It was, Cuck noted, a good job. The bow was drawing 34.66 feet. The stern drew 34.66 feet. Marine Transport Lines, Cuck said, was good about that. The company never lived to overload. Never even hinted that it would lose a few percent in it.

The ship cast off almost immediately upon loading, and Cuck set his men about the business of dogging down the hatches — fastening clamps as the ship approached the mouth of the Chesapeake Bay and headed for the ocean.

The pilot was dropped to a launch at 2 a.m. Friday as the Marine Electric beared the tangle bridge system that spans the mouth of the bay. A goodnight sea was restless. A gale was blowing from the northeast. None of this concerned Cuck particularly. "We had good sea many

times in this type of weather."

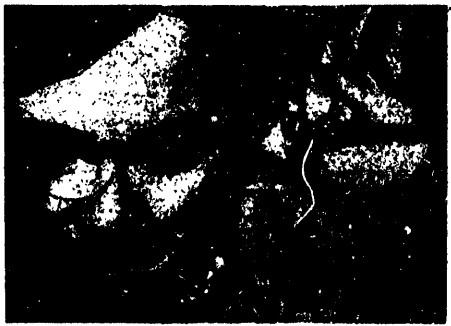
## DEATH SHIPS



Paul Dewey (right) with maritime union lawyer Arthur Rutter



Robert Cusick made detailed notes of Marine Electric's condition



Eugene Kelly and his wife, Julie; he narrowly missed being crushed by the ship's stack

the ship pitched and bucked in 35-foot waves, said executive vice president W.A. Downing.

A little hole opened and then widened into a long crack that eventually grew into a gash 36 feet long and 7 feet wide, a tear from port to starboard across the hull of the ship, 50 feet back from the bow, company executives theorize.

There is no doubt that the r.p. is there. Divers have documented it. But did it result from hitting a sand

bar?

Cusick was on the bridge during the tear and the escort of the Theodore. He recalled nothing that would indicate a grounding. No bumps. No bumps. Nothing. Kelly and Dewey felt nothing either.

"This is no reflection on the crew or officers," said MFL's Downing, who is a sea captain himself. "But they are wrong. With waves running 30 to 35 feet, you come down hard in the water. You could hit sand bottom

and never know it."

Cusick, however, has said he would never be convinced of that. He was on the bridge. He had kept an eye on the charts and depth readings, he said. And, he noted, the Marine Electric never came close to the old coal route that ships he had served on used to follow, a route that was well west of the Theodore's position and close to the shoals.

At no time did the ship enter water shallower than 16 fathoms — 36 feet

— according to Cusick. Moreover, the fishing boat captain, with a fathometer that recorded depths, said the Marine Electric never went into water shallower than 118 feet. The Coast Guard's estimate indicates that at the Marine Electric's closest approach to charted shoals she was 3 miles from the nearest shoal in water more than 12 fathoms.

It was at that point — 38 degrees 59.2 minutes north, 74 degrees 37.3 minutes west — that the Coast Guard

released the Marine Electric from escort duty.

Theodore captain Jennings Hayward radioed the Marine Electric: "I thank you very much, old dog, and I really appreciate what you did. Thank you very much and good luck to you."

The Marine Electric turned back north, with no luck in sight. Dewey, Cusick and Kelly all thought of the time that the worst of a bad storm had ended. Kelly was the





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## DEATH SHIPS

Dewey yelled to the other two seamen. Hang onto the life line around the raft.

The second mate, Clayton Babineaux, swam over. Dewey could not get him in the raft either, even with Babineaux trying to help. The second mate was in control, though. He was doing what officers are there for. He commanded.

Put the ladder down, he told Dewey. If Dewey would help him get in, he would help Dewey get everyone else in.

There was no ladder. Dewey found a cargo net draped over the other side. The seamen were pleading for help, unable to help themselves.

Follow the line! Dewey told them. Your way was around. A cargo net was draped over the other side. He yelled and yelled.

And the men worked their way around. Babineaux tried the cargo net. Even with Dewey's help he could not get in.

His hands just did not work. He could not grab on top of the raft. The net was flimsy there, providing no handhold.

Dewey placed Babineaux's hands behind the net. He gathered the net so Babineaux could grab it. It didn't work.

Get a foothold in the net! Dewey yelled.

I can't, Babineaux cried. Then Bab' was put his feet on the edge of the raft. Dewey pulled the second mate's knees up over the edge.

But that way, the mate's head was underwater.

Dewey was losing him that way, so they stopped. They had struggled to the cold for half an hour. Now Babineaux could only try to hang on. He was going to sleep. The cold water was stealing his energy.

A! Dewey looked in the raft for something else, anything to help. Was there another ladder? There were caulkers. One was marked "one small one." Another had "hot catch rain water." Another had "fishin' line."

Then Dewey looked back. Babineaux had drifted away. One of the other seamen struggled to get into the raft. The other two were in shock and made no effort to get in. They could only cry: "Help me! Help me! Help me!"

Then one by one, they all drifted away. Dewey was alone in the raft.

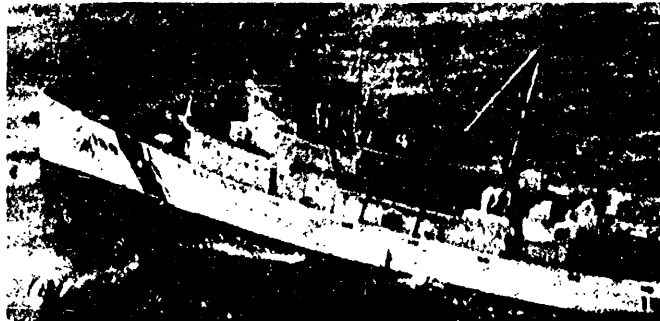
He shivered convulsively as he sat in the darkness. When he heard his copiers, he shined his flashlight to ward the sound. The chopper did not stop. Dewey was not worried. He was going to make it.

The chopper circled and came back. A basket was lowered. He saw a picture showing him how to handle inside. He just fell in. Then he was in the helicopter, door open, waiting, shouting about the noise. "There's no one else in the raft!"

But when Dewey looked down, he could see a man swimming. It was a Navy diver, James D. McCann.

McCann, in wet suit, snorkel and flippers, was finding a lot of dead seamen. But among them, he was finding men alive.

From the first, Kelly had not been a likely candidate for the task of survivor. He had narrowly escaped the fall of the ship's huge stack, thanks to an unknown shipmate's



As a Coast Guard cutter pulls up to a life raft (at lower left), rescuers see bodies propped up in life preservers bobbing in the sea.

tag on his collar. He never saw who it was.

In his words: "When I turned around, there was nobody there. I think we got separated off by the sea. And it was about a half an hour, maybe a little bit less, that I swam away from the ship."

Finally, after some time in the water, I came across a life line, and there were five other people hanging on.

It was the chief engineer (Richard Powers), the third mate, Richard Roberts, one of the ordinary seamen, his first name is Gerald—I don't know his last name, the day man, Joe, I don't know his last name, and it was the radio operator, Sports (Lame), and myself.

We were on the life ring. Everybody was pretty well stranded. We needed off so we could find out who was there. We sounded off by number and came out with six.

And then it was just talking, giving each other encouragement, that we thought daylight was coming, pretty quick. Several times the chief thought we were a ship in the distance, or new lights in the distance when we got to the top of it were.

The only lights I could see around me were the strobe lights of the life ring, the water lights, and I could hear people calling all the time, but I couldn't see anybody else.

And I don't know when I started to notice that people weren't on the life ring.

I noticed that Harold wasn't there at one time.

And then I turned around and the day man wasn't there.

Right after that, I called out to Rich Roberts and I asked him how he was doing. He responded that he was okay, that he was cold, he was okay.

I don't know how long it was on the life ring before I noticed that the only ones there were the chief engineer and the radio operator.

He was stiffening up. He kept saying, "I'm cold. I'm cold. Help me." At that point, I noticed that the chief—the chief—when we went into the water, he had his spotlight and he had been shining it up into the air.

**When rescuers first spotted men in the water, they exuberantly began preparing coffer. But as they got closer, they saw the men were dead—three bodies were receding, their eyes staring, as if they were in their living rooms watching television.**

all this time.

I noticed that he wasn't shining it any more. I thought he might have just it. So I watched him on the back of his life jacket, and there was no response from the chief. And as I felt him, his flashlight floated away from him, and I was able to grab it, and use that as my signal.

I never looked at my watch in the water because I was afraid that I would lose my grip on the ring. So I wasn't concerned with the time element. I kept talking to Sports. Sports was the last one on the ring with me.

The helicopters arrived, and it seemed like I could see them passing over me two or three times before they spotted us.

When they lowered the basket, I turned to tell Sports that the basket was here, and Sports wasn't on the life ring anymore.

I was just myself.

Kelly had tried to flash the tanker's red light at boats and ships earlier. But he could not aim it. He did not have fingers and toes that he could use.

He did not even know the Coast Guard diver was near him, helping the chopper look so close, almost floating on the crest of the waves. He could reach out and touch it.

Then he was in the basket, floating toward the chopper and he thought I should have taken the light. I should have saved Power's light. On board the chopper, Dewey and Kelly were freezing. Kelly's pants were down around his knees. He was sobbing uncontrollably, throwing up water and oil. There were three dead men with him in the helicopter as the crew searched and picked below like a poison-sucking fish.

One corpse had its eyes open. Kelly took a blanket and pulled it over his eyes even to keep from looking at the dead man.

Then the copter crew found a life boat. They brought a body up. Kelly yelled to Dewey: "Was that the chief mate?" Finally, Dewey read a tip.

Kelly yelled again: "Was that the chief mate?" Finally, Dewey read a tip.

He wasn't sure. The body was covered with oil. Finally, they could see it was Cusick. But was he alive, or dead? They could not tell.

When he had reached the swamped lifeboat, Cusick put his hand on the gunwale. Only then did he let go of the one and grab hold with his other hand. He passed, then kicked off his heavy, water-filled rubber boots. His smoking foot found a rail that ran along the underside of the boat.

He did not get up. He waited, poised for the right moment. Then it came. A wave carried the boat and Cusick up together. Then, when the boat started down—Cusick was still going up—he heaved, shifted his weight and allowed the momentum of the wave to toss him in.

Cusick sat on a thwart of the swamped boat as if floated only inches above the sea. The air was freezing cold.

A wave nearly washed him back overboard, so he lowered himself into the water with the boat and thrashed about to stay warm.

He began to yell: "Lifeboat here! Lifeboat here!"

But no one answered.

So the old chief mate sat in the water and prayed for daylight. When it came, a Navy rescue

had also arrived. I was a big one, the Barringer. It pulled alongside. The small lifeboat.

Norwegian seamen dropped a Jacob's ladder down the side and valiantly clambered down to help. They reached for the American. But the waves were too big.

The captain of the Barringer saw the danger clearly. The waves threatened to smash both the tiny lifeboat and Cusick against the steel hull of the ship. So the ship pulled back.

Cusick, floating, was relieved. Better this way, he thought. There was a better chance this way.

So the old mate sat in his boat, hanging on now, hanging on, hanging on.

Suddenly, the copter whirled overhead. A basket dropped from the sky. He tensed it and, as he was being hoisted up, he looked below. The small orange lifeboat grew smaller and smaller.

Two hands were working on him, pressing on him. Dewey and Kelly watched, still wondering. Was he alive? Or dead? The Coast Guardsman asked: What month was it? What month was it?

"February." Cusick finally coughed. Kelly and Dewey knew there was a man alive.

A short time later, rescue ships, including the Tropic Sea out of Philadelphia, approached. Crew members spotted men in life jackets, bobbing about on the sea, and men in exuberantly prepared coffee and soup for them.

But as the ships drew closer, it became clear—the men who were left were dead. Their bodies drifted by the ships in packs, rising and falling with the waves.

Jim Walsh of the Tropic Sea told the dead floated eerily, in relaxed positions. They reclined, their eyes staring, as if they were in their living rooms watching television.

The Marine Electric stayed off belly up for several hours. Then, at 27 degrees 51 minutes north, 74 degrees 51 minutes west, it turned and sent it.

## DEATH SHIPS

# Policy of good intentions leaves fleet shipwrecked

By Robert R. Frapp  
and Timothy Dwyer

Thirty-six years ago, leaders from labor, industry and government gathered in Washington to witness the signing of a historic piece of legislation designed to solve the critical problem of the ailing U.S. maritime industry.

Was cheap foreign labor permitting operators of foreign vessels to undercut the shipping rates on American vessels operated by U.S. crews? There would be operating subsidies for the U.S. ships to combat that threat.

Were foreign shipyards producing vessels more cheaply than their U.S. competitors? There would be build-up subsidies, loan guarantees and tax incentives to tempt the foreign builders. The U.S. government also would continue to provide firm economic support for U.S. ships by reserving some cargoes exclusively for U.S. flag vessels.

With such a plan, the economic success of the U.S. merchant marine seemed assured.

Yet more than a decade later, that legislation, the Merchant Marine Act of 1936, stands as one of this century's great failures of U.S. government policy—a failure so large that it no longer can be appraised solely in terms of economic costs but far surpasses those of the controversial Chrysler and Lockheed bailouts.

The year, the U.S. government and its taxpayers have cut their bread upon the waters—and have sunk, had it not for aid.

The cost of that failure has been borne as well as economic. Consider the following:

In February, the Marine Electric, a 30-year-old coastal coaler, sank in the North Atlantic off Virginia, killing 11 men. Those deaths raised to more than 100 the number of seamen who have lost their lives on very old U.S. merchant vessels since 1976.

In that same period, the federal government made available \$7 billion in operating and construction subsidies for the U.S. maritime industry, \$2.4 billion through subsidy programs and \$4.6 billion in construction-loan guarantees. That aid deters the controversial federally guaranteed loans of \$1 billion to the Chrysler Corp. and \$250 million to the Lockheed Corp. Industries and from domestic trade restrictions and cargo-preference laws is valued at an estimated \$1 billion more.

Despite these billions in government assistance, the United States now has the oldest merchant-marine fleet in the world. Twenty-two percent of U.S. merchant ships are more than 20 years old, a percentage far higher than that of any other major merchant fleet in the world. The old U.S. ships have suffered repeated breakdowns caused by age-related structural or equipment failures.

Where once the U.S. fleet carried 60 percent of the nation's waterborne commerce, today it carries

only about 14 percent. Where once there were 48,000 U.S. maritime jobs, today there are fewer than 22,000. Among world maritime nations, the U.S. fleet is eighth in carrying capacity and its reach is sliding.

The decline in U.S. maritime power and the continued use of an aging and dangerous fleet have come not in spite of expensive government maritime policies but because of them.

Like two broad tectonic plates beneath the earth, two major U.S. maritime forces have shifted and grained against each other over the last two decades, creating significant economic friction.

Demanded for U.S. ships is kept high by American cargo-preference programs and cargo laws. The high construction costs in American shipyards and by the requirement that most U.S. flag ships be built here. Thus few new U.S. flag ships are built—bought by U.S. firms—as much as some in foreign yards—because ordinary trade will not produce sufficient income to cover their high construction and operating costs.

But old U.S. ships like the Marine Electric are kept in service long past the appropriate 20-year retirement age because a limited amount of government-sponsored trade provides sufficient income to keep them in service.

"It is ridiculous," said Ernst Fraenkel, professor of ocean systems at Massachusetts Institute of Technology, adviser to the World Bank and one of America's foremost maritime industry analysts. "Under 'Build America' programs, we build onto a fleet of obsolete steamships with an average age of 18 or 19 years."

"It is not only the wearing of ships or the safety of ships, it is the economics," he said. "It makes no sense, these programs we have had for years, what we are talking about."

The forces of maritime economics cause U.S. shipping companies like Marine Transport Line Inc. (MTL) to purchase new ships regularly for its foreign-flag fleet while, at the same time, filling its U.S. flag fleet with vessels of World War II vintage. "Something like 80 percent of the U.S. tonnage fleet are old ships," said Capt. W.A. Overing, executive director of MTL. "That's something we're living with from an economic standpoint. We would love to renew all of our old ones with new vessels. We don't have the economic reasons. It's the state of the economy and the return in the domestic trade for the vessels. You're caught."

"I wish it weren't so," Downing said. "I am a seaman, too."

For years, the government's maritime program has continued to steer a futile course. Yet no one—government officials, union pushers or shipyard executives—has been willing or able to change it.

Here are the causes and devastat-

ing effects of the failure of U.S. maritime policies.

**PROGRAM:** The U.S. government requires that all domestic cargo, half of all government cargoes and all military cargoes move on U.S. flag vessels.

**RESULT:** These cargo-preference programs, intended to lay down a protected base for a strong merchant marine to trade internationally, have become virtually the only trade for many U.S. companies.

Eighty-three percent of all U.S. exports moving on U.S. flag ships are government cargoes that were restricted to move on American ships, according to the Office of Management and Budget. In the international trade where there are no such restrictions, the United States handles less than 4 percent of the cargo in and out of this country. A typical U.S. ship charges the U.S. government \$122 a ton to haul grain to Egypt. A Greek ship would cost only \$18 a ton.

**PROGRAM:** The U.S. government pays operating differential subsidies to ship companies to make up the difference between the high cost of U.S. crews and cheaper foreign crews. The intent is to allow U.S. operators to price their rates competitively with crews from other nations, providing jobs for American merchant seamen.

**RESULT:** About \$6.5 billion has been spent since the program went into effect—\$14 billion since 1976. Yet the subsidies have not kept pace with the labor costs. Regulations and union contracts require U.S. crews to be costly twice as large as those of most other countries on some ships. It costs more than \$200,000 a year to keep a captain on a U.S. flag ship, compared with \$33,000 for a Korean captain or \$60,000 for an American second engineer versus \$11,000 for a Japanese counterpart. The extra expense of crewing an American flag vessel cost easily two to three times as much.

Thus, despite the subsidies designed to move American cargoes and jobs, the number of U.S. merchant seamen has dropped fourfold during the last three decades to slightly more than 22,000 in 1981. The market share of U.S. ocean trade has declined since 1976 from 2.5 percent to 1.4 percent. Only nine American ship lines still offer scheduled service; half of them are in poor financial condition.

**PROGRAM:** A construction-subsidy program aimed at closing the gap between high-cost U.S. shipyards and cheaper foreign yards allowed the government to pay shipyards up to 50 percent of the cost of a new American ship. The program, once limited to freighters, was expanded to bulk ships in 1976. In addition, shipbuilders could use government-subsidized loans to finance their operations. Ship purchasers could shelter from federal tax any income used to



Source: U.S. Maritime Administration

Photograph by Inquirer/JOHN GORMAN

buy and equip new ships or repair old ones.

The goals of these programs in 1976 were to reduce the cost differential between U.S. and foreign yards to about 25 percent and to build 300 new ships by 1980.

**RESULT:** Only 89 of the 300 ships have been built. American shipyard prices soared so high that not over the 50 percent subsidy allowed them to compete with yards in Japan, Norway and Korea. At the end of the decade, a 46,000-ton bulk-cargo ship was built for \$100 million—higher than the \$60 million cost of a similar ship built in Japan. It would cost \$66 million in the United States. What is more, many new U.S. ships have energy costs up to 40 percent higher than foreign-built direct ships. The total of construction, crew and other operating costs means that a U.S. ship can cost as much as \$2 million more to operate each year than a foreign-built competitor.

Yet a couple of U.S. laws require directly or indirectly that most U.S. ships eligible for government cargo-

preference or subsidy also be built here. If a bulk-ship operator wanted a subsidy, he would be required to "buy U.S. built."

The United States has the strictest shipyard and inspection code in the world today.

**RESULT:** Time after time, the U.S. Coast Guard has approved as seaworthy ships that are in great violation of the safety code of the industry code. Dangerously worn hatch covers on the Marine Electric—a possible contributing cause to its sinking—servicer were inspected. The owner of the Fort, a grain ship, lost it in 1980 with 25 men aboard, yet permitted to delay repairs to its hull after it had run aground. The repairs never were made.

Many other vessels whose records have been investigated by The Inquirer were found to be unseaworthy when the Coast Guard approved them. Some developed serious problems soon after the inspection.

The SS *Princess*, chartered by the Coast Guard in Jacksonville, Fla., in February, got only as far as Bermuda on a transatlantic journey before it had to

## DEATH SHIPS

pull into a shipyard for hull repairs. According to a source within the Roosevelt operation, in another last-ditch, the Penn was forced to stop in Malta after leaving Egypt to attempt to repair its anchor apparatus and two bolts in its hull.

## PROGRAM

The Shipping Regulatory Reform Act of 1916, intended to regulate U.S. ship lines to compete fairly against such other, foreign cargo shippers, closed cards and most other forms of ship-company business agreements.

## RESULTS

The United States still competes under this law, while foreign shippers of shipping lines regularly form closed cartels or share ships. Justice Department lawyers can prosecute and send to prison U.S. shipowners who attempt to play the same game as foreign companies but this only allows foreign competitors to use a form of economic justice on U.S. ship lines. The foreign companies can complain about alleged American shipping cooperation to U.S. regulators while engaging in similar arrangements themselves.

It is against such a backdrop of confessed and failed government policies that the old yards of the U.S. merchant marine continue to mill — and risk.

"Government aid and advocacy has become a controversial issue, with many claiming that it does more harm than good," said Franchel of MIT. "While the United States was among the first nations to legislate a formal policy of government aid in merchant shipping, these programs have become ineffective and, in many aspects, counterproductive."

The failure of U.S. maritime policy can, perhaps, be best understood by reviewing the extraordinary success of Sealand Services Inc., a formerly competitive U.S. ship company that has spurred all direct government assistance.

Sealand has foregone millions in aid but it has gained the freedom from government regulatory restraint to compete successfully in international markets.

Then, Sealand was able to order from foreign yards 12 sleek new container ships in 1966, the new ships came, once-month, out of Japanese and Korean yards with a precision of delivery unknown in the United States since World War II.

The company that ordered a modern fleet for a third of what it would have cost for similar American-built vessels. Among its advantages, the new fleet was equipped with modern diesel engines up to 35 percent more efficient than typical overburning U.S. Marine engines.

With its efficient foreign-built fleet, Sealand turns a profit by using a combination of expert marketing and its edge in container technology and docking facilities, according to maritime experts.

Sealand now derives 71 percent of its revenue from competitive trade between the United States and foreign countries and 29 percent of its revenues in trades between other foreign countries — actually carry its cargo between foreign nations cheaper than foreign carriers can. Only 9 percent of Sealand revenue comes from protected domestic U.S. trade. The company earned \$47 million from its operations from 1970



President Richard Nixon signs the Merchant Marine Act of 1970, pouring billions of dollars into a fleet that is now foundering

to 1961, while all subsidized U.S. lines lost \$200 million before midway in the same period. Sealand took its \$7.7 billion in revenue during those years, while the whole rest of the U.S. liner fleet took in only a little more — \$9.3 billion.

Why? "This is one of the riskiest businesses in the world," said one Sealand officer during a recent interview. "The market forces you to take risks and we want to take the risks. Many American ship companies do not and see the government programs to hide from the risk and the competition it works for a while, but in the end, the subsidies and the protection are an opiate."

"You do slowly, but you die in this business just the same," he said. The official was talking about the death of companies, not men. But it amounts to the same thing.

For years, an alliance of government, unions and companies has kept the maritime assistance programs growing. The trend of protectionism accelerated after World War II, when maritime protectionists such as Daniel K. Ludwig, an American and father of

the superintendent, looked abroad for cheap foreign labor to build their ships. Applying his new welding technology, Ludwig turned his Japanese shipyard into the most modern in the world.

While U.S. ship companies began building their fleets abroad, they also began operating their under foreign flags — Liberian and Panamanian, for the most part. Less stringent safety standards were in effect under these flags, but the main advantage of foreign-flag registry was in the price and the pick of the crew. U.S. flag ships sailed only with Americans, foreign-flag ships could be captained by officers from one country, manned by engineers from a second, crewed by seamen from a third and fed by cooks from a fourth.

Such a corporation also could shop the world for the best pay on a new vessel.

The U.S. response to competitive pressures from abroad was to expand the wide range of maritime aid programs that provided assistance to both U.S. ship operators and shipbuilders.

These programs, lobbied for by an

alliance of operators, builders and unions representing workers in both fields, masked the economic fate of the U.S. shipyards and ship operators. If a ship company wanted operating subsidies, it was required to use ships built in U.S. yards.

"The linkage is highly, highly unusual — and harmful," said Franchel. "With the exception of Brazil and Argentina, I know of no countries — no major maritime countries — that make the linkage of the two industries of ship operating and building."

Eventually the costs of building ships in the United States climbed to extraordinary levels. By 1966, not even 36 percent construction subsidies could make up for the competitive disadvantage with foreign yards.

Despite the 1970 legislative act aimed at promoting the construction of built ships in the United States, only three tankers and seven bulk-type vessels were contracted for here between 1973 and 1980, leaving \$200 million in construction subsidies untouched. The U.S. shipbuilding industry, even with subsidies had priced itself out of its protected markets.

The result was that cargo carriers

were forced either to continue operating their old ships or expend huge sums for inefficient U.S. steamships.

Many chose to stay with their old ships. As a result, the U.S. merchant fleet is withering.

Impartial analysts believe that it is now clear that the link between shipbuilding and ship operating should be severed.

"It is not just that the interests of shipbuilders and ship operators conflict some days, but one ship company executive. 'They are in direct opposition. The shipowners cannot subsidize the shipyards and compete internationally. And that is what has been said.'"

Yet the maritime alliance, with its millions in political contributions and lack of powerful adversaries, has kept the U.S. maritime policy on its futile course.

Shipbuilder unions, which benefit from the "Build American" clause, support the small merchant steamers, and vice versa, all in the name of a strong merchant marine. Together, they support each other and the politicians who support them both.

"It works this way," said a lobbyist

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for a subsidized ship line. The maritime unions contribute to campaigns of congressmen. The congressmen approve the cargo preferences and operational subsidies, which are crew subsidies.

The money comes back to the union members, who pay to the political funds, which pay to the congressmen who approve the subsidies. You get the picture of how that never stops.

Such contributions, legal and illegal, have been common for years. Two ship-line executives and a nation officer who were present when President Richard M. Nixon signed the maritime reform act in 1970 had been indicted for illegal contributions to congressional campaigns.

In 1974, maritime unions alone gave half a million dollars to congressmen — \$127,743 of it to members of the House Merchant Marine and Fisheries Committee. Candidate Jimmy Carter received \$150,000 in donations from maritime unions and companies.

A group of shipping companies let it be known to Robert J. Blackwell, head of the Federal Maritime Commission, that there was a \$100,000-a-year job waiting for him in the private sector.

The Carter administration then backed a strong cargo-preference law that would have reserved 10 percent of the vast oil import shipments to this country for U.S. flag ships.

The measure, said the maritime interests, would have invalidated the shipbuilding industry and the merchant marine. But it also would have added millions to shipping costs when nearly 30 percent of all U.S. tankers were over 10 years old.

The cargo-preference bill gathered additional support from an unlikely source. The federal Maritime Administration created an organization called the National Maritime Council to lobby for the bill.

The council, made up of officials from labor, ship lines and shipyards

### The decline in U.S. maritime power and the continued use of an aging fleet have come not in spite of expensive government policies but because of them.

It is absolutely correct that the contribution per capita of our members exceeds those in other industries. Its because we are the only class of workers whose working conditions are totally subject to U.S. regulations. . . . For that reason, he is most acutely aware of the political structure of this country and he looks to his union officials to protect and advance his interests.

"We have no apologies to make whatever for the political activities of maritime unions," he said. Today, the union leaders continue to use their vast clout in support of their long-standing political goal—still more cargo-preference legislation.

Their current emphasis is on the support of a renewed \$1.777 billion program of \$1.5 billion of all import and export bulk cargo—about 10 percent each year, to a maximum of 20 percent. Washington observers say the legislation has little chance of passage, but it does have significant congressional support.

Maritime unions donated more than \$500,000 to 1982 congressional candidates. House Merchant Marine and Fisheries Committee chairman Walter B. Jones (D, N.C.) received \$15,000. House merchant marine subcommittee chairman Dan Rostenkowski (D, N.Y.) got \$12,500. Senate merchant marine subcommittee chairman Dan Rostenkowski (D, N.Y.) got \$12,500. Senate merchant marine subcommittee chairman Dan Rostenkowski (D, N.Y.) got \$12,500.

Despite continuing congressional support, some experts believe cargo preference is poisoning the U.S. merchant fleet.

"We have had 45 years of experience with cargo preference and it has done nothing for anyone, except for a very short period of time, for a very narrow range of interests," Frankel said. "It has done nothing for labor in the long term, it is pro-tectionist and damaging. I would hope that we could do better than another little preference-bill Band-Aid that keeps operating these very old vessels that should be scrapped."

But the lobbying continues in the other direction. The Maritime Administration and the unions are pushing hard for more strict enforcement of cargo-preference laws that send old, unsafe ships to sea. They recently obtained a ruling from the U.S. Agriculture Department that a shipment of bagged flour to Egypt would fall under the cargo-preference laws, thus requiring the services of U.S. flag ships.

By continuing to promote such cargo-preference provisions while rejecting any proposed reforms, the unions exact a cost in the lives of seamen lost on aging U.S. vessels and in millions to taxpayers and consumers in higher shipping costs.

For example, government agencies paid more than \$400 million to U.S. flag ships in 1981 to carry govern-

ment cargoes. U.S. freight rates recently ran triple the going world rate — but even if they were only double, taxpayers still paid more than \$200 million in extra shipping costs.

The cost of the ban on foreign-flag ships in the domestic trade was estimated in a brooding furor in 1979 to have been about \$136 million a year between 1950 and 1979. The cost can only have grown since.

Those are the simple numbers. Accounting to about \$20 million a year in higher shipping costs to the government or private shippers. The penalties are borne not just in the United States but around the world. The Agriculture Department, for example, exports some food for peace grain to poor countries because its shipping costs are \$150 million higher.

Closer to home, Canada's Sealship Lines Inc. was prohibited recently from using its vessels to help load economic, deepdraft vessels at the mouth of the Delaware Bay with coal from Philadelphia — even though no existing U.S. vessels can perform the same task and none are being built in the U.S. The decision may harm Pennsylvania and Philadelphia economies because coal that would have been loaded here must be diverted elsewhere.

Another operation proposed to carry coal in slurry pipelines from southwestern Pennsylvania to huge coal carriers anchored in the lower Delaware Bay would cost \$1.3 billion if large U.S. ships were used. But the cost would triple by yearling — to \$450 million — if sailing ships could be converted to foreign yards to carry the coal.

Under U.S. law, they cannot. So Pennsylvania coal cannot be shipped overseas as efficiently as it might be. As a result, U.S. trade and the Pennsylvania economy suffer.

Despite the punishing maritime laws these punishing maritime laws impose on the maritime establishment is national security. Indeed, a recent House committee report on cargo-preference laws concludes that they are useful for this purpose. The report quotes a 1966 congressional study on a cargo-preference act.

"The main consideration should always be that the effect of this act will provide the government for instant use a splendid fleet of vessels ready for any emergency, and in addition, will tend to develop and increase the commerce and the merchant marine of our country."

Despite the flowery language, both liberal and conservative analysts have concluded that the nation's current policies do little to buttress the national defense.

In other words, how are the conflicting maritime policies and programs to be revised without hurting the fleet even more? Even Sealand depends on government-subsidized cargoes as a basis for its U.S. flag operations. And even Sealand runs some ships well over 30 years old.

Some changes in maritime policy pushed recently by the Reagan administration could provide some first steps toward the answer, some industry observers say.

Most of the major arguments advanced in support of assisting the U.S. merchant marine for national security reasons are seriously flawed, concluded a recent study by Reagan's Office of Management and Budget.

The U.S. merchant marine would not play a critical role during the first 30 days of any military conflict. Government-owned merchant ships, such as SS 72s, which were purchased recently, would play a more critical role in supplying troops to fight a limited war. Most commercial ships are big and slow, characteristics that are incompatible with military requirements of speed and access to relatively shallow-draft ports that might be under battlefield.

In fact, only about 10 percent of the U.S. merchant fleet would be useful in the early stages of war. The others don't have the speed or configuration to help much.

In longer conflicts, the United States could rely on its so-called National Defense Reserve fleet, which would take up to 60 days to recommission. U.S.-owned vessels flying under Liberian and Panamanian flags also have "effective control" clauses under which U.S. owners would have been located here available for use in war.

Gerard R. Janaker, author of a Brookings Institution maritime study, but concluded that national security is a legitimate goal of merchant marine programs, but that commercial viability and military usefulness are not compatible.

National security considerations may provide additional justification for a program of assistance to the U.S. maritime industry. But the program should be designed expressly to serve the nation's security requirements — not write to analysts of federal maritime aid.

In fact, an argument can be made that U.S. shipping laws impose some aspects on national security.

The Department of Energy pays more than twice the going world ship rate when it uses U.S. ships, as required by law, to fill the Strategic Petroleum Reserve with oil for standby use in an emergency or possible boycott. The excess shipping costs of \$60 million a year could be used to buy more oil.

The military pays nearly \$600 million each year to charter privately owned U.S. ships or buy space on liners. That adds, conservatively, an additional \$200 million to the cost of national defense.

Apart from the sad fact of its decrepit condition, a stronger merchant marine would be of significant value to the nation, most maritime industry observers agree. The question is what policies would produce a strong merchant marine, and at what price in subsidies and higher costs to shippers?

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Some changes in maritime policy pushed recently by the Reagan administration could provide some first steps toward the answer, some industry observers say.

Through administrative acts, Reagan has ended construction subsidies that were not effective, even when they paid 30 percent of the cost of U.S. ships.

No new applications for operational subsidies are being accepted, and proposed "buy-outs" for some existing ships permit taxpayers payments to liners if they agree to go out of business.

Then, too, the Reagan administration opened a "window" for a year allowing subsidized liners to buy back ships abroad. United States Lines ordered 11 innovative container ships before the window was closed.

A major ship-reform bill proposed by the Reagan administration is pending in Congress. It would see the maritime provisions, allowing lines to compete more effectively against foreign lines in certain.

The bill proposes abandoning or making more liberal the major "buy-outs" ship-construction programs, allowing foreign-built U.S. flag ships immediately to carry cargo-preference cargoes. Current law forbids their use for three years after their purchase under U.S. orders.

The administration also would like to open permanently the window for subsidizing construction to build up foreign ships to be flagged American-owned vessels.

Moreover, the program permitting

### Yet, what policies would produce a strong merchant marine, and at what price? How are the conflicting programs to be reformed without hurting the fleet even more?

U.S. ship companies to escape taxes on profits used to build or repair ships in U.S. yards would be expanded to cover construction abroad. And a tariff of 50 percent of the value of repairs made in foreign yards would be repealed.

Combined, these administrative actions and proposals for reform constitute a possible first step toward saving the U.S. merchant fleet.

But proposals are one thing, laws another. Congress has not been receptive in the past to modifying the "Bulldozer American" restrictions. The temporary window on foreign construction was closed in September when strong opposition in Congress surfaced. The other administrative steps taken by Reagan could be reversed by another president.

Robert F. Morrison, a Washington-based expert in maritime affairs, reported recently in the *Journal of Commerce* that the maritime community was divided into several camps.

The subsidized-ship operators support Reagan's proposals to allow the purchase of foreign ships. But, he wrote, those in the cargo-preference "trade" are against selling up acquired, long-own foreign vessels coming and competing for government-generated freight.

In alliance with the preference interests are the shippers and the unions. Morrison wrote, "who bitterly oppose" the build-foreign proposals. They and their supporters are waving the American flag fiercely, even if it flies over one of the most tired

Robert J. Blackwell  
Director, Maritime Administration

as well as the Maritime Administration itself, must carry \$1 million to launch a "Don't Give Up the Ship" advertising campaign. About \$100,000 of that went to the advertising company of Carter's special adviser, Gerald Rostenkowski.

The House was expected to pass the measure, but it was defeated in a tense roll-call vote on the floor. Republican questioned the job offer to Blackwell, and, at the last minute, Common Cause denounced the union political contributions.

Despite the criticism, one maritime union leader was proud of the political contributions. O. William Wood Jr., administrator of the AFL-CIO Maritime Trades Department,



U.S. Rep. Walter B. Jones  
House merchant marine committee

## DEATH SHIPS

fers in the world.

"I simply cannot believe that the administration does not care whether or not we have a U.S. flag merchant marine," said Rep. Biaggi, in response to Reagan's efforts at reform.

Michael Klebanoff, the head of Ocean Marine Inc., investigating before Biaggi's subcommittee for the American Maritime Association, also was alarmed. His company owns a fleet of tankers in the domestic trade but also has run some of the oldest bulk carriers in the preference grain trades. He did not like the new Reagan suggestions.

"That policy seems to be the liquidation of the American merchant marine," he said. "Step by step, the structure of national shipping policy embodied in the maritime laws is being dismantled."

If the past is prologue the Reagan proposals, though favored by many experts with no vested interest, may fall in the face of such rhetoric.

Moreover, the administration still works at cross-purposes in many areas promoting increased use of aging vessels at the same time it seeks reform.

The Military Swift Command, for example, last year helped a paper company headed by Henry J. Bonabel, an operator of very old American merchant ships including the *Warrior*, gain a \$34 million contract to ship military cargoes to Europe.

Later he obtained two old sister ships of the *Warrior*, each more than 30 years old, to make the North Atlantic run with the military cargoes. Looking the contract over, Sen. Land and United States Lines, two of three U.S. lines considered viable world competitors. The Bonabel line promptly ceased operation when it was under 12 in April.

The Reagan administration has placed no restrictions on the age of ships that sail under the preference acts and domestic trade. Even industry spokesmen have suggested that preference cargoes be given only to ships under 20 years old just giving them to ships under 30 years old would be an improvement, experts say.

And as one industry executive pointed out, there is still no real incentive for U.S. ship companies to wean themselves from subsidies.

Much of the industry remains fixated. Unsubsidized cargo lines and the subsidized lines, the subsidized bulk carriers and the unsubsidized, the tanker companies and the

domestic carriers spend their energy fighting each other over government regulations rather than competing with foreign lines for cargoes.

That, the policies continue.

Frankel, for one, believes more radical curves are needed. "None of the Reagan proposals meet regulations rather than competing with foreign lines for cargoes," he said. "It has become such a money ball of wax, we have to start from scratch."

"If you want to modernize the American merchant marine, you could do a very simple and straightforward thing," he said. "End the linkage of ship companies and shipbuilders now, when world ship prices are low."

Let U.S. ship interests buy, second-hand, modern vessels abroad at very low costs," Frankel continued. "If we were to buy 100 to 150 of these foreign ships, at \$4 million to \$12 million a piece — a fraction of their real cost at current depressed prices — then scrap our old fleet, we would overnight drop our average ship age to 5 years."

Such simple solutions are not well received in the complex world of U.S. maritime policy even though they would cost little more than \$2 billion — the expense of about two years' worth of current aid programs. Paul savings from the foreign ship-speed diesel could pay off the entire debt in three to four years, Frankel said.

As things stand now, the passage of such a program is unlikely. Many of Frankel's suggestions are not even on the agenda.

The majority of the U.S. maritime establishment seems more concerned with how it can get more money and cargoes from the government than from shippers who have a choice. They are more interested in gaining protection from competition than in competing.

"The present tragic condition of our merchant marine is self-inflicted — caused primarily by Americans not by forces outside our shores," said Charles E. Blumenthal, chairman of Sea-Land.

And until that situation is changed, the old ships of the U.S. merchant marine will continue to sail. But they will not sail cheaply.

With increasing frequency, the price will be paid in the lives of U.S. seamen.

"I will be carefully reviewing the Maritime Administration's operations to make certain that they do not have the effect of encouraging the use of any unsafe ships which run the lives of American seamen," Lewis wrote.

Yet three years after the Post disappeared mysteriously after sailing from Philadelphia the men and women who oversee America's maritime establishment have done little to reform the system that sent the *Warrior* and scores of other World War II-era ships to sea in the name of a strong U.S. merchant marine.

In fact, they have done the reverse. Companies controlled by Bonabel — a man with a history of operating old and unsafe vessels — have received at least \$26 million in govern-

ment shipping contracts in the last year.

Set months after a company created by Bonabel gained one military contract to haul cargoes to sister ships of the Post, the Military Swift Command was encouraging him to bid on another.

And two years after Lewis pledged cargo preference to U.S. vessels, a new Bonabel fleet of unsafe World War II-era ships has emerged to haul government cargoes abroad.

Two of Bonabel's ships, each with long records of breakdowns and material failures on the high seas, each approaching twice the normal 20-year retirement age for ships, are setting sail again with government-sponsored grain. The government has contracted to pay Bonabel's companies \$2.75 million to haul it, with the promise of more trips to come.

One of his ships, the *California*, has a deck pitted by rust. Said a shipping executive who once worked with Bonabel on the *California*: "She is one of the worst I've seen, to be honest, in air or water but nothing else. She is a worthless piece of rust, run into the ground long before Henry Bonabel got hold of her, totally unfit for service."

The other the *Penny*, is the identical twin of the Post. The vessel was put back in service and towed up the East Coast from Tampa Fla. in late January. It has a long history of breakdowns at sea that in might have ended in catastrophe.

"You could throw a softball through its hatch covers," said a shipowner who has seen the vessel, patched if it was leaking, scuttled if it was bad.

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# Bonabel's rickety fleet: U.S. contracts keep it afloat

By Robert R. Frank and Timothy Dwyer

Is the living room of her home in the Port Richmond section of Philadelphia, Lucette Frederic and the other mothers can fan out the letters from high government officials in the hands like cards.

Here is one from Vice Admiral Carlisle, the commander of the Military Swift Command. Another comes from Mario Biaggi, an influential congressman in maritime circles. This one is from the secretary of the Navy, this one from the U.S. Transportation secretary.

He secured the letters all state in one form or another, that they are sorry about Mrs. Frederic's son, Hans Zuckler, and Anne Bradley's son, Al. Those men were lost, along with 31 other Americans, when the *SS Post*, a ship owned by a company controlled by Henry J. Bonabel, disappeared in the North Atlantic in 1960.

"Please accept my deepest sympathy for the loss of your son aboard the *SS Post*," wrote Secretary of the Navy John Lehman Biaggi, chairman of the House subcommittee on the merchant marine.

"Who knows better than a mother like you, who has lost a son at sea, how important it is to ensure safe merchant vessels."

Drew Lewis, then secretary of transportation, added that the U.S. system of sending old ships like the *Post* to sea would be reviewed by the Coast Guard, studied by the Transportation Department, restored if it was lacking, patched if it was leaking, scuttled if it was bad.

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THE *SS POST*, owned by Henry J. Bonabel, left Philadelphia Oct. 24, 1960, the 35-year-old former World War II troop carrier and its crew of 34 disappeared in the Atlantic without a trace.

## DEATH SHIPS



The Penny, the decrepit twin of the Poet, is still carrying cargo



Henry J. Bonnabel at a 1968 Coast Guard hearing investigating the sinking of the Poet

on an anaworship ship whose next stop was the scrapyard, and sent to see two old vessels that sank, one with the loss of 34 American lives. All of this has been done under programs designed to promote national security and build a strong merchant marine — a "glorious fleet" in the words of congressmen who enacted maritime-related legislation in the first decade of this century.

Bonnabel's activities continue, actively encouraged by U.S. government agencies that must use any American ships they can find to carry their cargoes to be in compliance with U.S. cargo-preference laws.

Bonnabel was shipping another government-sponsored cargo of grain across the Atlantic to the Poet when the ship disappeared. Owned by the Hawaiian Express Corp., a one-ship corporation managed by Bonnabel, the converted troop-carrier sailed from Philadelphia for Egypt in October 1960. A storm struck the North Atlantic. Other ships survived, but that was the last anyone heard of the Poet or its crew.

In June 1961, months after the Poet disappeared, two French patrolmen on a beach near the Spanish border found a piece of fabric, similar to

that used in life rafts, with the letters "P" and "O" stenciled on it. The next week, after hearing of the missing Poet, they went back, but the scrap had disappeared.

That may be the closest anyone comes to finding any evidence of the fate of the old vessel.

Bonnabel maintained during the Coast Guard's hearings on the Poet's disappearance that the ship was sound and well maintained, one of the strongest in the U.S. merchant marine.

"We are very proud of our steam ships, sir," he told the Coast Guard panel.

Other testimony raised questions about that reassurance and Bonnabel's competence as a ship operator by waiting more than a week to inform the Coast Guard that the ship was missing. Bonnabel may have contributed to the loss of life aboard the old vessel, according to a National Transportation Safety Board report on the sinking.

The commandant of the Coast Guard concluded that the ship's age and a decision by inspectors to permit a delay in repairs to its hull suggested that the most probable cause of the Poet's sinking was a failure of hull integrity — in other

words, a hole in the hull.

After the loss of the Poet, Bonnabel continued using old ships, unchecked, prompting many of his employees, including three who held high positions within his company, to discuss his operations with The Inquirer.

One of them told the story of the Penny.

The old ship, the Poet's twin, was the subject of lengthy Inquirer articles two years ago explaining how it had broken down countless times in the open sea while carrying government cargoes. Yet Bonnabel has continued to use the vessel.

In January, the Penny was in such bad shape that it had to be towed from Tampa to Jacksonville, Fla., shipyard. There, after some repairs, the Coast Guard permitted the ship to sail, and the Penny picked up a cargo of government grain bound for Egypt. But it was forced to stop in Bermuda, just a few hundred miles after it had set sail, for emergency repairs to its hull.

It started out again this time on coasting routes that washed over its old hatch covers damaging some of the grain. The source said it unloaded its cargo in Egypt and sailed

for home, only to be forced to stop again at a shipyard on the island of Malta. The Penny had damage to its anchor-boasting apparatus and two holes in its hull.

An American Bureau of Shipping inspector in Malta said the Penny was in the worst condition of any ship he had ever seen. He ordered it to an immediate drydock upon its return to the United States, although previous drydock inspections had not stopped it from sailing. It is believed bound for the United States now.

In another government shipping deal, Bonnabel, in partnership with others under the name American Coastal Lines Inc., last year bid for and won a \$24 million contract to carry military cargoes for the Military Sealift Command. He offered to carry them at a significantly lower price than the two previous carriers, the large and stable Sealand Services Inc. and United States Lines Inc.

However, he owned no ships at the time American Coastal was in fact a paper corporation. Its bid was well come by the Sealift Command, which was looking for new competition to an effort to counter the

steady escalation of charges by Sealand and United States Lines for carrying U.S. military cargoes abroad.

But four vessels named by Bonnabel as part of his prospective fleet to carry the military cargoes were part of an antique fleet. They were all sister ships of the Poet, similar of identical in design and construction still in service beyond the age at which most merchant ships are scrapped.

Two of them, the Mayaguez and the Aguililla, were sold by the Puerto Rico Maritime Shipping Authority after most of their economic value had been drained. The third was the California. All three had histories in Coast Guard casualty files of mechanical or equipment failures that had placed them in situations that could have proved catastrophic.

The fourth, the Caribe Enterprise, was owned by American Marine Lines and was not even available to be offered by Bonnabel's company to its owners said.

The award created something of a stir at the time. But the secretary of the Navy, the Military Sealift Command and Biaggi all insured the media and Mrs. Frodette in letters that the Coast Guard routinely inspec-

## DEATH SHIPS

such vessels and would not permit them to sail unless they were safe.

"While I shall not presume to question your feelings about Mr. Bonabel, the ships operated by this carrier are inspected to the highest standards of safety in the world by the United States Coast Guard and the American Bureau of Shipping," said Vice Admiral Carroll, the commander of the south command. The Military Sealift Command would never knowingly endanger a crew by sending military cargo in unsafe ships.

However, the inquiry has documented one after case in which the Coast Guard has allowed unsafe ships to sail. An inquiry review of Coast Guard records shows that one of the two ships used by Bonabel to carry the Military Sealift Command cargo, only the Mayaguez had been checked by January 15 of that time. The Coast Guard inspectors had not boarded the other ship, the Aguililla, while it was under Bonabel's control.

In fact, a completed Coast Guard record did not even register correctly the name assigned to the vessel. Bonabel's company changed the name of the Aguililla to *Amco Voyager*. The Mayaguez was the main ship of the company, but by Cambodia in 1975 and later by the U.S. Marine) was renamed *Amco*.

Such confusion within the Coast Guard is not unusual, particularly when it comes to Bonabel and his tangled net of corporations and risk-

ers. The Coast Guard simply is not equipped to monitor such a complex network.

An incident involving a ship named the *Pilgrim* illustrates the confusion over Bonabel's ships. The *Pilgrim* was purchased in 1979 by a Bonabel corporation called the African Purchasing and Supply Corp. It was loaded a few days later with U.S. government-sponsored grain bound for Africa through the port of Durban, South Africa. After that delivery, the old ship was to sail to a Taiwan shipyard to be scrapped.

But on the way to Africa, the *Pilgrim*'s cargo shifted, and the old vessel began to list. Initially, the angle of list was well within a normal ship's capacity. But the *Pilgrim* had holes all over it. Near the number four cargo hatch, water gushed through a hole in the deck. Water also poured in through a garbage chute that was frozen open, through valves that were rusted open and through a seawater hole in a ventilation shaft.

In all, 99 tons of sea water poured in, threatening to swamp the ship. In the struggle to pump it out, three crewmen were seriously injured. Ironically, the effort and crew kept the ship afloat, and, after three days that was frozen open, through valves that were rusted open and through a seawater hole in a ventilation shaft.

It took nearly two years for the Coast Guard to complete its report on the incident. An investigation, J.R. Whitehead, noted the safety viola-

tions aboard the *Pilgrim*, and concluded.

"Given the poor condition of the vessel, there is no indication of lack of due diligence on the part of the various U.S. Coast Guard and classification inspectors and licensed personnel."

That conclusion opened the door for a range of possible actions against the ship's officers whose actions were criticized but not even been notified that the *Pilgrim* had become a danger. Senior Coast Guard officials were not even aware that the *Pilgrim* was owned by Bonabel.

Capt. John W. Klotz, the chief of Marine Investigations Division, said it was embarrassing that the report had not arrived for two years. He said, the old ship was a problem. But, he added, he thought the Whitehead report did not provide enough specific to start action against Bonabel or Coast Guard officers.

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"Currently, strong effort is being made to revitalize the American Merchant Marine for both defense and commercial purposes," the letter continued. "The premature removal of this safe and seaworthy vessel would be contrary to all present initiatives."

The letter reminded to a meeting between Coast Guard and Mobil officials, who stressed, among other points, that removal of Mobil Fuel built in 1972 and owned by Mobil Oil Corp. lacked an "inert gas" saturation system required by law as of June 1 of this year.

Mobil appealed the Coast Guard decision, then appealed still higher when the first appeal was rejected.

Finally, Mobil warned that the Mobil Fuel would be removed from service if the inert gas system requirement it added the Coast Guard to consider "subjective matters."

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they have not, there is little the Coast Guard can do to stop them.

"I would urge you to write as much as you can about these old ships," Klotz said. "There is a limit to what we can do. Some of these come with some of these owners."

The military has had repeated problems with Bonabel. Yet it keeps coming back to him.

Three old Bonabel vessels were chartered to the predecessor of the Military Sealift Command during the Vietnam conflict. The military was required to send as much equipment as it could to Vietnam on U.S. vessels.

One Bonabel ship, the *Horatio*, bound for Vietnam with bombs and ammunition, developed so many problems on the way that its cargo had to be taken off and loaded on another ship.

Bonabel told the military that the ship must have been sabotaged. But the man who was Bonabel's port engineer at the time told The Inquirer that the *Horatio* *Cage* was worn out and unfit for sea duty.

Bonabel's corporation paid Taid Shipyard only \$25,346 of \$225,000 he owed them for repairs made to the ship. Then he scrapped the vessel, despite the Coast Guard's fine of \$200,000, shipyard officials told The Inquirer.

A second ship, *Our Lady of Peace*, was left in a very shabby channel with only its military cargo and the captain and engineer aboard when the Bonabel Corporation failed to pay the crew, military re-

cords show.

After losing his recent Military Sealift Command contract April 1 to Seal-Land and United States Line, which had submitted lower bids, Bonabel sued the two line companies, that they were conspiring to keep him out of the trade. The civil suit-trial suit was dismissed by a federal district court judge.

Before he lost the contract, however, he brought the California and the Pusan out of retirement, plying its cargoes under the U.S. Flag for Peace program.

On March 29, a Bonabel company spokesman told The Journal of Commerce that the line was interested in new government-sponsored business that appeared to be developing.

The Japanese administration had initially said that shipments of banded freight bonded for Egypt did not have to be carried on U.S. flag ships, that influential members of Congress, concerned with the state of the U.S. merchant marine, complained, and the administration changed its mind.

The administration is allowing half of the shipment to be carried in U.S. flag vessels, even though carrying it on U.S. ships is more than double the cost from about \$2.28 a ton to about \$10 a ton.

The U.S. flag requirement will divert \$30 million from the budget allocated to buy fuel. The administration and Congress decided that the cost was worth it—to assure a strong merchant marine.

## 'Semi-Paratus'

## A 'half-ready' Coast Guard steams to the rescue

By Robert R. Prump  
and Timothy Dwyer  
Special Writers

The title of the Congressional subcommittee assumed by the condition of the U.S. Coast Guard "Semi-Paratus" The U.S. Coast Guard, 1981.

English translation: "Half-Ready." The title mocked the proud slogan of the Coast Guard, "Seaper Paratus" or "Always Ready."

Such is the case of the U.S. Coast Guard, protectors of our coastline, our fisheries, our marine environment and enforcers of our commercial vessel safety regulations.

For while the U.S. safety code for ships remains the toughest in the world, a model for international emulation, the agency responsible for enforcing it has been unable to stop old, unsafe ships from sailing with major defects.

Time after time, vessel after vessel, freshly old World War II-era ships have been allowed by the Coast Guard to sail hazardous ocean routes with dangerous faults unrepaired.

Why?

One answer appears to be rooted in simple economics. If Coast Guard inspectors were to insist on full compliance with safety codes by all the American merchant

**The Coast Guard, which has allowed a rattletrap merchant fleet to sail, is in *reputing* shape itself. The service is underfunded, its inspectors poorly trained and its ships in violation of its own safety standards.**

vessel 30 years old or older, they would beach a significant portion of the U.S.-flag fleet. Hundreds of jobs would disappear overnight.

Here is one recent example of how economics ultimately triumphed over safety.

Documents obtained by The Inquirer under the Freedom of Information Act showed that Coast Guard staff inspectors repeatedly refused to approve a tanker named the *Mobil Fuel* for future service. The ship, built in 1972 and owned by Mobil Oil Corp., lacked an "inert gas" saturation system required by law as of June 1 of this year.

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ing the system, the inspectors had concluded. "The question is at what point does the cost make it impracticable?" R.E. Shekelle, the commanding officer of the Coast Guard inspection operation in Philadelphia, said.

"The combined costs of retrofit of its size and age out of service," Shekelle noted.

But that was not to be. Given a choice of safety — requiring the inert gas system — or economic — letting the ship sail on without the safety system — the Coast Guard chose economic.

On Feb. 18, 1981, less than one week after the Marine Electric sank off the Virginia coast killing 31 men, the U.S. Coast Guard, having three times denied Mobil's request, reversed itself and the conclusions of dozens of pages of studies and inspections. The Coast Guard made only this statement:

"The SS Mobil Fuel is granted an exemption from the inert gas system requirements. This decision is based upon all the issues raised in your correspondence and other submissions."

That was a case involving an issue that had swayed its way to Coast Guard headquarters.

Dozens of other cases are resolved at the regional level where lower level Coast Guard officers determine when a ship should sail.

The inspector of the Marine Electric, for example, said he did the best he could by getting some repairs done to the deficient vessel in 1981. But few regional Coast Guard officers feel they can prevent a ship from sailing without better authority, he added.

Pressed by union lawyers at a Coast Guard hearing investigating the wreck of the 36-year-old ship, he stated:

"We did as much repairs as possible and took care of the problems areas I don't know what kind of answer I can give on that. Do you put a 30-year old ship out of service or do you let it run for another 30 years?"

The Coast Guard's failure to deal with safety defects on the Marine Electric was not an isolated incident.

Time after time, old ships sail with defects in their hulls, hatches, decks and engine rooms.

How can such savings at the price of money reports made by Coast Guard inspectors after investigations of ship casualties conclude that Coast Guard inspectors are poorly trained

## DEATH SHIPS

and that the program of ship inspection needs improvement.

And inside the "Semi-Parasit" report from the House subcommittee on Coast Guard and Navigation was the conclusion that the Coast Guard was underfunded, understaffed and overextended in its duties — which ran the gamut from patrolling the 200-mile fishing limit and conducting search and rescue operations, to porting for drug smugglers.

The Coast Guard is itself operating with many ships in need of repair. An investigation into a wreck involving the Coast Guard cutter Blackhawk and another ship in Tampa Bay three years ago showed that the Coast Guard cutter was in violation of Coast Guard safety standards. It was not carrying proper life-saving equipment for its own crew. Twenty-three coast guardsmen died in the accident.

The chief reason for the sad state of the Coast Guard, the subcommittee report concluded, was shortage of money.

The Coast Guard's marine safety budget was cut from \$177 million in 1982 to \$128 million in 1983, according to Bill Woodward, staff director of the subcommittee on Coast Guard and Navigation. Funds for Commercial-vessel inspection come from the marine safety budget.

The subcommittee report stated that the inspectors were not well trained. Coast Guard regulatory and inspection personnel are given high grades for fairness, honesty and degree of effort. They are frequently faulted, however, for inexperience and inflexibility, the report stated.

The report recommended that some of the Coast Guard's regulatory responsibilities be transferred to the American Bureau of Shipping (ABS) — a ship classification society that inspects the ships and certifies them as sound for insurance purposes.

But Admiral John B. Hayes, a former Coast Guard commander, told the subcommittee that transferring some Coast Guard inspection duties to the ABS might pose some problems.

"The ABS, as a classification society, is responding to economic concerns of the shipowner that is, with respect to his ability to gain insurance, with respect to his liability, should a casualty occur, Hayes testified. So at least the driving force of the organizations — in no way suggesting they are not concerned with safety — but the driving force of the ABS is clearly on the economic side."

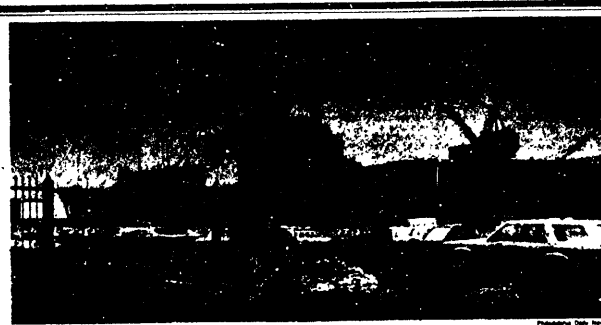
Woodward said the House subcommittee was planning hearings, possibly as soon as next month, on the issue of marine safety inspections and for a discussion of the implications of the Marine Electric incident. "He said the intent of Congress in regard to commercial vessel safety is clear if a ship is not safe it should not be allowed to sail."

He said it was up to the Coast Guard to pursue shipowners who do not maintain their vessels — owners who are clearly sacrificing safety for short economic gain.

If the Coast Guard were to do that in full, it would have to establish a much more effective method of identifying troublemaker owners.

There it would have to state clearly the mandate suggested by Woodward: "If they aren't safe they don't sail."

Such a system and such mandate do not exist today. ■



Despite subsidies, contracts at U.S. yards fell to 3 last year, forcing yards like Chester's (see above) to scale back

## Reagan hopes to prop up yards with billions in military orders

By Robert R. Prump  
and Timothy Dwyer

U.S. shipyards once buntling with thousands of employees and dozens of orders, received exactly three contracts to build private merchant vessels last year.

Few orders for private ships exist this year, and few are likely. The Reagan administration has proposed ending the "Build America" requirements for most U.S. ships, while terminating the nation's construction-subsidy program that has given builders up to 50 percent of the cost of a ship.

The yards have not been abandoned, however. Reagan administration officials say because the government will send them a lot of the type of work they do best: military construction.

By building a planned 600-ship Navy by 1990 and meeting the needs of its Rapid Deployment Force, the shipyards should be kept busy for many years, Reagan says.

"The thrust of the administration's new policy — and particularly the Build America plan — is to direct the maritime industry on a course leading to self-sufficiency and greater competitiveness," said Harold S. Shear, director of the U.S. Maritime Administration. But, he continued, to do so "requires industry awareness that we can no longer rigidly adhere to policies of the past that were well-intentioned but failed to attain the envisioned goals of the architects of the Merchant Marine Act of 1936."

Despite the expenditure of billions on construction subsidies, the commercial shipbuilding program has not kept U.S. shipyards at a price parity with their low-cost foreign competitors, Shear said.

In fact, the construction subsidies that were halted as the answer to the yards' problems just 13 years ago would have to be increased to an estimated 60 percent of total

construction costs to make U.S. yards competitive, Shear said.

Military contracts call for the placement of 106 orders for new ships by 1991, at a cost of \$4.6 billion, to be built in U.S. yards. Such a program, says Shear, will sustain the yards and serve the national defense.

That seems to be the trend. Since the 1960s, U.S. shipyards have followed one of three courses.

• They have collapsed, as Camden's New York Shipbuilding & Drydock Co. did two decades ago.

• They have sharply reduced their operations, as Chester's old Sun Shipbuilding Inc. did two years ago.

• Or they have specialized in military ships, as Virginia's Newport News Shipbuilding & Drydock Co. has done.

Some of the reasons why U.S. shipyards can no longer produce U.S. commercial vessels at costs competitive with those of foreign shipyards are well known.

"The American shipbuilding industry is less than effective and productive because of obsolete facilities, traditional management and rigid labor practices," said Brian Franke, a professor of ocean systems at Massachusetts Institute of Technology. In an assessment of the industry.

The subsidies designed to save the industry, he said, actually may have harmed it. The system of granting construction differential subsidies as a percentage of total cost allows the shipowners to pass on the cost of many custom design features, Franke said.

At the same time, other countries principally Japan were perfecting a highly efficient system of producing 10 or 15 identical ships at once.

The U.S. system — custom orders from the yard from ship operators — did not lend

itself to mass production of a stock ship. Antitrust provisions also prohibited U.S. yards from achieving greater efficiencies by spreading work among various specialized construction facilities, as Japan also did.

Hope lingers needed to turn out marine vessels were not available until recently forcing the yards to continue building fast but inefficient steam turbine ships. As recently as 1981, U.S. yards still were building steam turbine ships, eight years after the energy crisis made them as practical as a big-guzzling V-4 engine.

Shipbuilders in foreign nations also received a broad range of helpful subsidies and government direction. A Japanese council virtually dictates which type of ships will be built in which yards. A recent study by Exxon engineers shows that Japanese ships often are sold on the world market below actual cost of production, thanks to government subsidies.

Edwin M. Hood, president of the Shipbuilders Council of America, believes the U.S. industry again could become competitive if it had a government industry relationship similar to Japan's. A trial production capabilities, the same shipyard work rates, the same regulatory environment, and similarly priced components.

But that is not the way it is. One study shows that Japan's shipyard wages are 26 percent lower than those in the United States. But man-hours spent on each ship built are 56 percent lower. Wages in Europe are 17 percent lower than in the United States and man hours are 41 percent lower, indicating a dramatic gap between U.S. and foreign productivity.

Steel plate used in ship construction costs \$360 per metric ton in Japan, less in West Germany and Britain and France. It costs \$535 in the United States. ■



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## How this series was reported

These stories are the result of a remarkable investigative effort that began more than two and a half years ago when a 25-year-old ship called the SS Port sailed from Philadelphia for Egypt with a cargo of grain and a crew of 34.

The Port disappeared in a North Atlantic storm without a trace, and none of the crew survived. Robert R. Frump, The Inquirer's maritime reporter, set out to discover why. Evidence and testimony produced by official investigations shed little light on the disaster. But as Frump interviewed dozens of sources to try to answer questions raised by the disappearance, he realized that the loss of the Port was not an isolated incident. Indeed, Frump found, the Port fit into a larger pattern that raised fundamental questions about the state of the U.S. merchant marine and the wisdom of government maritime policies of long standing.

In pursuit of the facts, Frump met a conspiracy of silence — among officials representing the maritime union, the maritime industry and the U.S. government. All of them had vested interests in maintaining the existing U.S. maritime system despite emerging evidence that the system

was futile and dangerous.

Frump continued to accumulate information and began to write stories about the system that was sending deathships to sea and American seamen to their deaths.

Then in February, as one of the worst hazards of the century swept up the East Coast, another deadly ship, the 35-year-old Marine Electric, sank off Virginia. Thirty-one men aboard died. But three, including the first mate, Robert M. Cudick, survived.

With the encouragement of his editors, Frump set out immediately to find out why the Marine Electric went down. He next telegraphed requesting interviews with the three survivors as they recuperated in a hospital from their ordeal. He also began contacting his many maritime sources in search of details and background on the ship and its sinking.

After gathering early evidence that the Marine Electric was in poor condition, Frump, joined by Timothy Dwyer of The Inquirer's New Jersey staff, began an intensive effort to determine conclusively whether the nation's maritime programs were as disastrous and wrongheaded as they appeared.

Dwyer attended the Coast Guard's hearings on the Marine Electric in Portsmouth, Va. He also interviewed the survivors and dug through maritime safety records.

Meanwhile, Frump, with the assistance of Inquirer staffer Katherine Seelye, conducted a massive search through Coast Guard casualty files in Washington to assess the safety record of the nation's aging merchant fleet.

They uncovered powerful new evidence that American seamen were dying with alarming frequency. And they determined that government policies intended to protect a strong American merchant fleet were in fact encouraging the use of many old, unsafe vessels — literally a death fleet.

They also found that the Coast Guard often permitted these ancient relics to leave port in gross violation of government safety standards.

After more weeks of intensive effort of gathering information and interviewing dozens of sources, including union, industry, government and academic experts, Frump and Dwyer were ready to write.

This series is the product of that effort.



Robert R. Frump

Robert R. Frump, 40, the maritime writer for The Philadelphia Inquirer, was born in Phoenix, Ariz. He grew up in the farm town of Paxton, Ill., and received journalism degrees from the University of Illinois and Northwestern University. He has worked for newspapers in "Champaign-Urbana, Ill., the News-Journal in Wilmington and the Philadelphia Evening and Sunday Bulletin. He joined The Inquirer in 1976 and began covering maritime affairs fulltime in 1980, one of the few American journalists to have been assigned such a specialty beat for a general-circulation publication. He won UCLA's Gerald Lusk Award for distinguished financial reporting the year and has written a number of investigative articles.



Timothy Dwyer

Timothy Dwyer, 37, is a metropolitan reporter assigned to The Inquirer's Camden, N.J., bureau. He was born in Southbridge, Mass., and grew up in Worcester, Mass., a small mill town in the central part of the state. Dwyer graduated from Northwestern University in Boston in 1979 with a degree in history. While a student at Northwestern, he worked as a correspondent for the Boston Globe and, upon graduation, joined the Globe staff as a general assignment reporter. During his four years at the Globe, he covered the Massachusetts legislature, prisons and urban affairs. Dwyer won a New England Associated Press award in 1983 for feature writing. He joined The Inquirer in June 1982.

### DEATH SHIPS



The Philadelphia Inquirer

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Mr. HUGHES. Just one additional question. It is interesting that a number of the vessels that are bulk-type carriers that were sunk were converted to T-2 tankers. What is the status at the present time of the order that I think was issued by the Transportation Safety Board that no additional approvals be given to these conversions? Is that order still in effect?

Admiral LUSK. The National Transportation Safety Board doesn't issue orders, but what they do is they issue recommendations, and subsequent to the loss of, I believe, the *Marine Sulfur Queen* a number of years ago, she was, as best as I can recall, a converted T-2 that was carrying molten sulfur, they did issue a recommendation to the Coast Guard that was not quite so complete as you might have been led to believe. They recommended that there be no more conversions of a certain type.

Now our response to the National Transportation Safety Board indicated that we agreed that there would be no more conversions of that type, but we did indicate that we felt that a prohibition for conversions in general was not appropriate, but rather that each should be considered on its own merit.

Mr. HUGHES. Have there been any approvals since 1980?

Admiral LUSK. I don't believe so, sir.

Mr. HUGHES. Thank you, Mr. Chairman. Thank you.

Mr. STUDDS. The other gentleman from New Jersey.

Mr. FORSYTHE. Thank you, Mr. Chairman, and thank you very much, Admiral.

I would like to go into the helicopter situation a little bit as it affected the *Marine Electric* sinking. I understand that the Coast Guard helicopters which are available at Cape May had only one engine, not two, and that a two-engine chopper was sent from Elizabeth City.

Would you please comment on how frequently the lack of two-engine search and rescue choppers impedes the Coast Guard in its SAR operations?

Admiral LUSK. Sir, I have in a previous tour of duty been Chief of Operations in one of our districts and did have a number of helicopters that were available to me, but I am really not responsible for that program and, in particular, not too aware of the details regarding our SAR response to the *Marine Electric*.

I would be glad to get you an answer for the record, but I am afraid the topic is a bit beyond my area.

Mr. FORSYTHE. I would appreciate that for the record, because I think again it goes to show, as the gentleman from New Jersey was emphasizing, that we expect so much from the Coast Guard, and they really don't have the tools in many cases. This might be a significant matter to address in future budget review.

In addition, when the Coast Guard helicopter arrived at the scene of *Marine Electric*, its crew lacked training and equipment to help survivors who were in 37 degree water. I understand that a Navy diver from a Navy helicopter that had flown out from Oceana Naval Air Station went into the water to assist the survivors.

Why does the Coast Guard not have equipment on board cold-weather SAR helicopters to allow the crew to enter the water to assist survivors in this environment?

Admiral LUSK. We are working with the Navy now in trying to evaluate the desirability, feasibility of our using Navy training resources, Navy training facilities to give us that sort of capability. Our people are trying to figure out now whether we have the resources, the wherewithal to do that type of training, sir.

Mr. FORSYTHE. Mr. Howell's testimony indicates that the crew of the *Marine Electric* was aware of deficiencies on the ship that may have affected the ship's safety. Did the Coast Guard ever receive complaints from the crew concerning the unsafe condition?

Admiral LUSK. If we did, sir, it hasn't been made available to me. However, I must say that the same statute that I quoted a little while ago as being the one, title XLVI, United States Code, section 234, the one that requires officers to tell us of any deficiencies and on which we relied for so many years and have received literally tens of thousands of complaints, that also has in it a prohibition that any of us who divulge the source of that sort of a complaint is subject to dismissal from the service.

That sort of information doesn't flow up. It is generally kept very close. It could have happened.

Mr. FORSYTHE. Remember I used crew rather than officers.

Admiral LUSK. Yes, sir. I used the word as inclusive of officers, I am sorry.

Mr. FORSYTHE. Does the current law include crew or is it limited to officers?

Admiral LUSK. I believe the current law does have, and I have a quote of it here, I think it uses the word "crew." It says "licensed officers and seamen," and then it goes on to say that it is only the licensed officers that have that requirement, that mandate to tell us.

Mr. FORSYTHE. Do you think that that might be advisable that something be done about that situation?

Admiral LUSK. Certainly, we would encourage people to make those things known to us. We frequently will have organized labor draw to our attention issues of a safety nature. Some of the companies, some of the ships have safety committees aboard, and their unlicensed people will come up with recommendations and draw those to our attention. It is very desirable.

Mr. FORSYTHE. Do you think that the whistle blower protections afforded under the OSHA Act are sufficient in protecting such crew complaints? You indicated as far as the officers, there apparently is a very good protective screen in that regard.

Admiral LUSK. I have never had any reason to suggest that it wasn't adequate. I have never heard of any complaints at all about any sort of a reprisal being made. It may well have been, but I have never heard of such complaints.

Mr. FORSYTHE. Maybe that might be worth a little bit of review as I am saying, trying to emphasize moving to the crew level, and then to be also sure that they have the same protection.

Admiral LUSK. I certainly would think that would be very fine.

Mr. FORSYTHE. Thank you. Thank you very much.

Mr. STUDDS. The gentleman from Delaware.

Mr. CARPER. Thank you, Mr. Chairman.

Good morning, Admiral. I would like to follow up, first of all, on a question that was earlier asked by the chairman of the subcom-

mittee. You may recall his rather lengthy question. I would like to ask about the apparent failures in that particular Coast Guard inspection referred to by the chairman, do they result from shortcomings in the Coast Guard inspection procedures or from a lack of competence on the part of the inspector involved or from simply having to do a rush job, or all of the above?

Admiral LUSK. I don't know. One of the problems that I have is that case, if we are talking about that *Marine Electric* case, I think we were, that case hasn't had its investigation completed yet. As a matter of fact, they are meeting tomorrow, and while I certainly do have some insights into what the Board is finding, they haven't put together their conclusions yet.

I have seen a lot of facts, but I haven't seen the conclusions and recommendations, and so I hate to even try to second guess what their conclusions would be.

Mr. CARPER. Will their conclusions address this particular question?

Admiral LUSK. Oh, yes, they certainly will. I know we looked at the qualifications of the individuals. I can remember a previous question having been asked about another one of our inspectors, and I can remember thinking how qualified that man was, even though it was suggested that he might not have known how to inspect a hatch cover. This was a man who while I was officer in charge of marine inspection in New Orleans came to me from another unit, having served 4 years in inspection there, served with me for several years, went on to another multiyear inspection tour, subsequently retired, and went as a surveyor for ABS. The newspaper articles suggested or indicated that he had stated that he didn't know how to inspect a hatch cover.

Well, if someone like that is incompetent, the system is in trouble, because someone like that is one of our very finest inspectors.

Mr. CARPER. What is the Coast Guard's policy with regard to subjecting vessels of the same class to inspections? How often are vessels required to be inspected? Does it differ by class?

Admiral LUSK. It differs more by the type of service that the vessel is in rather than class, sir. If she is a passenger vessel, for instance, her intervals are different than if she is a cargo vessel or a small passenger vessel, but essentially in vessels like this we have a requirement that appears in the Safety of Life at Sea Conventions that all signatory nations comply with, which is virtually identical to our statutes and regulations. We require a 2-year inspection with some sort of a look with a somewhat reduced scope about midpoint between the 2-year inspections. And then we also have in the United States a requirement for dry docking every 2 years.

Mr. CARPER. What is the situation with inspecting fishing vessels? Congressman Hughes in his questions raised some concerns about loss of life there. How often are fishing vessels inspected, if at all?

Admiral LUSK. They are not inspected at all. We have one of those interesting anomalies where we do have certain requirements that are laid upon uninspected vessels by one or two acts of Congress, but those requirements primarily concern such things as lights and lifesaving equipment, lifejackets, and those kinds of

things. A periodic inspection of the vessel is not done for 99 percent of the fishing vessels of the United States.

Mr. CARPER. How significant is the loss of life from sinking of fishing vessels? Have you any idea, say, compared to that of the loss of life from the sinking of commercial vessels?

Admiral LUSK. Yes; we do have some statistics that we have done in the very recent past, just within the last few months, on fishing vessels. We had a study done, sir, back about 10 years ago, that came to certain conclusions, and what we tried to do was verify whether or not the conclusions were valid today. What we basically found is that the casualty rate for fishing vessels is, as best I can recall, about five times as bad as for U.S. ocean-going cargo vessels, and about three times as bad as U.S. ocean-going tank vessels.

Now in that regard, the study, which is something we did in-house and hasn't been published or anything, the study does suggest that things in the area of fishing vessel safety are a bit better now than they were 10 years ago, when we did the study last time, and we are trying to figure out why. It might well be just because they are now using, for instance, more fiberglass for small fishing vessels, but we are trying to figure out the whys.

Mr. CARPER. Should we be concerned here today about fishing vessels, the inspection thereof, or is that too far afield? I realize you are stretched pretty thin as it is.

Admiral LUSK. I don't have any administration viewpoint on this. Just from my own point of view, I look at the record of the fishing vessel, and certainly their casualty record is quite high. Being somewhat of a purist in this area of concern makes me think what we might gain from having some sort of a safety inspection program.

On the other hand, I understand from my staff that our casualty record in the fishing vessel fleet is not too dissimilar from that of the rest of the world, and that, in like fashion, as I have just mentioned, the safety record is a bit better now than it was 10 years ago when Congress and the administration decided not to seek an inspection program.

So I look at it in two ways: I'd like to see it, but on the other hand the safety record is getting better. It is not so much different than the rest of the world's.

Mr. CARPER. Are commercial vessels required to carry on board antiexposure suits?

Admiral LUSK. We have a regulatory proposal that has just completed its period of public comment that will require them on most of our cargo vessels, not passenger vessels.

I recently came back from London, where we finalized the second set of amendments to the Safety of Life at Sea Convention. We tried to get that requirement in the second set of amendments. We were unable to, but we did get it into the requirement that a certain number of those exposure suits to be in each lifeboat. With regard to our domestic regulatory package, we have to now go through the comments that we received, and there were many, and fine-tune our final regulatory package.

We rather suspect that there will be changes. I have found, for instance, that the way we have proposed the regulations is such that would allow a vessel like the *Marine Electric*, many of whose

crew died from hypothermia, to operate in that area without such equipment.

Mr. CARPER. Is that something you are trying to do through regulation?

Admiral LUSK. Yes.

Mr. CARPER. Is that an area that should get legislative attention or is it more appropriate to have it through the regulation?

Admiral LUSK. We think we can handle it through regulations.

Mr. CARPER. One last question, if I may. A ship called the *Penny*, which I understand is a sister ship of the *Poet*, do I understand that it was grounded earlier this year, and if so, why did that occur?

Admiral LUSK. By grounded, you mean we drew her certificate?

Mr. CARPER. I believe so.

Admiral LUSK. As best I recall, and really I am digging deep into my memory now, personnel from one of our Southeastern offices went aboard the *Penny* and found a number of material deficiencies that grew out of either previous requirements or complaints and gave the owner a number of requirements for repair.

The owner, as best I can recall, surrendered the certificate, indicating that he did not care to make the repairs. The latest thing I heard was that there was some consideration now being given by the owner that he might possibly cause the repairs to be made, but I am just not up to speed on that, sir.

Mr. CARPER. Thank you, sir.

Mr. STUDDS. Admiral, the recent article in the Philadelphia Inquirer, which I guess you suggested a few moments ago to Mr. Hughes has some distortions, stated:

Billions of dollars in government maritime subsidies intended to promote the construction of the modern American merchant fleet have perversely done the opposite, created a fleet of ancient and dangerous U.S. ships that have been taking American seamen to their deaths with alarming regularity. Many of the ships are so unseaworthy they could not begin to pass U.S. safety regulations. They go to sea anyway. They do so with the complicity of industry, labor, Congress, and the Coast Guard, itself.

What is your reaction to that statement and what are the distortions?

Admiral LUSK. I wouldn't even pretend to make a response to that aspect that concerns the effectiveness of the subsidy program, but with regard to the suggestion that vessels are sailing that don't meet our safety standards, I would readily concede that there may well be vessels out there that have deficiencies we have not detected that we wish we had, but I would categorically say that there are none sailing out there that we feel are unsafe and are yet sailing with our blessing.

Mr. STUDDS. In your statement you point out that the U.S.-flag inspected fleet is simultaneously very old and quite safe when compared statistically to other major maritime fleets. Obviously, there are strong economic incentives to keep old U.S.-flag vessels operating in the coastwise trade and in certain protected areas of the foreign trade. Does the Coast Guard ever order a vessel to be scrapped?

Admiral LUSK. I can't ever remember ordering a vessel to be scrapped, but I can certainly think of instances where the owner

might decide that the requirements we have given him would be so financially adverse that he might decide to scrap it.

Mr. STUDDS. When inspecting an old vessel, does the Coast Guard make allowances for its age?

Admiral LUSK. By allowances, you expect that an old vessel will have different problems than a new vessel. You expect that the inspection will be a little bit more difficult, that there will be some subjective judgments that have to be made, and you expect that it might well be that any allowances that have been built into the vessel as a result of her design, because of expected corrosion might well have to be taken into account.

Now when a vessel is designed, the owners make decisions, designers make decisions relative to the type of material, the type of coatings and the like, and it is very frequently the case that they make them heavier to allow for a certain amount of deterioration.

Mr. STUDDS. Let me tell you what prompted the question. The Coast Guard inspection report of the *Poet* included this phrase: "The stern post has a considerable amount of corrosion but considering the age of the vessel, it is not considered excessive."

Why would the age of the vessel be relevant when determining the amount of possible corrosion?

Admiral LUSK. It is difficult for me to do other than conjecture, but I would think if it was a brand new vessel and had a significant amount of corrosion, the inspector might be very concerned in that area of the ship that he had some sort of an electrical problem, where we were setting up a galvanic action in a battery type of situation where we were almost eating the rudder up.

If it was an older vessel and it had a certain amount of corrosion, he might have expected that that would have occurred just because of the salt water, the results of salt water and rust. That would be my conjecture, but I really don't know.

Mr. STUDDS. The amount of permissible corrosion that would trigger a citation of major problems I trust is not a function of the age of the vessel.

Admiral LUSK. No.

Mr. STUDDS. There is a safety judgment to be made quite apart from age, is there not?

Admiral LUSK. That is correct, sir. The amount of deterioration that is allowed wouldn't be a function of age, but if we noticed in a new vessel a lot of corrosion, we would be very apprehensive that we had set up some sort of a battery.

Mr. STUDDS. Does the Coast Guard inspect older vessels more frequently than younger vessels?

Admiral LUSK. Not more frequently sir.

Mr. STUDDS. Should it?

Admiral LUSK. Differently, I would say. We do inspect them differently, but we don't inspect them more frequently.

Should it? Right now we are looking at those kinds of things in our management analysis staff now, and we are coming to some conclusions that suggest there is a lot more to the problem of aging than pure age. The problems that you encounter aren't straight line with age. There are a couple of variables that are bothering us.

Mr. STUDDS. You are referring to vessels?

Admiral LUSK. Yes, sir, I am referring to vessels, but there are a few variables that we haven't quite identified yet. Certainly I am not adverse to the thesis of inspecting them more frequently if we should. I am just not quite convinced we should.

Mr. STUDDS. The General Accounting Office did a report on the Coast Guard's commercial vessel safety program in 1979. In that report, a Coast Guard official is quoted anonymously as saying that the reason so many deficiencies were being found on U.S.-flag tankships in his area was that they were generally older vessels used in the coastwise trade \* \* \* many were built during World War II and are near the end of their service lives. He categorized them as "basket cases which are not economically feasible to maintain free of deficiencies for they need continuous maintenance."

Speaking anonymously, would you agree with that statement?

Admiral LUSK. I try not to speak anonymously, sir.

Mr. STUDDS. I couldn't resist reading that question.

Admiral LUSK. Old vessels do present us with a bit of a problem, and there is no question but that owners will frequently try to get one more period of service out of them, which leaves us in a rather difficult position. They are saying "Can I make one more trip?" We typically don't give people authority to make one more trip under a certificate. We typically give them the requirements to put them in a condition that makes them safe for the period of inspection.

Mr. STUDDS. Admiral, I am sure the concern that prompts the question I just asked, which was not intended to be facetious, is whether indeed the Coast Guard is so conscious of, aware of and sensitive to the economic situation of the owners of a vessel that it feels somehow pressured occasionally to let so-called basket cases go to sea.

Another way of putting that is, do you feel you need a stronger mandate from the Congress to see that that does not happen and that for no economic reason whatever is anything which in your judgment is a basket case allowed to sail?

Admiral LUSK. Certainly I do worry that our officers in charge might possibly be influenced by the pressures that are put on them, and there are pressures that are put on them, and I do think though that the system is such, and that our control over the system is such, that they do have the wherewithal to resist those pressures.

Mr. STUDDS. Do you need a stronger statutory mandate from the Congress in that regard?

Admiral LUSK. I really don't think we do need one, sir.

Mr. STUDDS. Are there additional questions?

The gentleman from New Jersey? The gentleman from Delaware.

Mr. FORSYTHE. I ask unanimous consent that we might submit questions.

Mr. STUDDS. Without objection.

[The questions are as follows:]

#### QUESTIONS OF COMMITTEE AND RESPONSES SUBMITTED BY COAST GUARD

Question 1. H.R. 3486 imposes a civil penalty against a vessel owner, agent or operator who knowingly operates a vessel without a required Certificate of Inspection. The bill provides penalties which represent a substantial increase over those currently on the books. Does the Coast Guard have any comments on the level of penal-



ties provided in H.R. 3486, and will these measures have the desired result of reducing inspection certificate violations?

Answer. The requirements for submission of a request for inspection 60 days prior to the expiration of the current certificate, or for notification that the vessel will not be operated so as to require inspection, should help the Coast Guard more effectively manage inspection activities. A civil penalty of \$1,000 for violation of this 60 day notification period would seem sufficient to insure compliance. The increased penalties for operating a vessel without a required Certificate of Inspection or with an expired certificate seem to be substantial enough to serve as a deterrent to this type of operation.

*Question 2.* It has been indicated that due to the currently depressed maritime industry, workloads for vessel inspectors have been reduced. Has this situation also resulted in a reduction of inspectors? Is the Coast Guard now involved in any sort of strategic planning directed towards predicting possible future inspection workloads? Considering that it takes at least three years of training and experience to develop a qualified vessel inspector, what steps are being taken to maintain and improve the overall competency of Coast Guard vessel inspectors? In your prepared testimony, you stated that progress has been made toward improved training of Coast Guard inspection personnel. Would you please outline this progress.

Answer. The Coast Guard monitors its Commercial Vessel Safety workload very carefully. We have an ongoing workload analysis program whereby we analyze past workload data and monitor industry activity. As a result, we are able to anticipate future workload demands. We periodically make adjustments to personnel assignments in response to those demands. In response to your specific question, it is true that the maritime industry has been depressed recently resulting in a concurrent reduction in workload in certain geographic areas. However, this is a cyclic phenomenon that has mirrored the state of the economy as a whole. Because of economic fluctuations within the marine industry, we expect that peaks and valleys in our workload will occur. However, over the longer term, our analysis shows a fairly steady workload trend. During these cyclic periods of reduction in inspection workload, we expect our field commanders to utilize their personnel in other areas of need. We try to make permanent reductions in personnel only in connection with permanent workload reductions, such as our recent delegations to ABS and the establishment of our regional licensing examination centers.

With regard to inspector training, we initiated a major project two years ago to deal with this issue. Under the training program resulting from this project, our marine inspectors will acquire greater in-depth technical knowledge and skills. Furthermore, the effectiveness of the new program will be enhanced by recent Coast Guard policy changes which extend the length of tours of duty at Marine Safety and Marine Inspection Offices from three to four years. Inspectors will now be able to remain in a geographic area for longer periods of time, receiving more formal technical training and acquiring more on-the-job experience.

Our training is being improved in several ways. We are adopting a comprehensive, coordinated program to train and qualify our personnel. This includes streamlining our resident training courses to concentrate on the essential elements of the job. At the same time, we are greatly expanding the quality and content of our unit training. In both cases, we are updating our training materials to make them consistent with current industry practice and to reflect the technical state of the art. Going beyond training content, the new program will be more selective in determining the specific training that an individual will receive. In the past, inspectors have been trained to perform a wide variety of tasks so that they could be assigned to any of our units and be able to perform in any of that unit's functional divisions. Under the new program, the job requirements of a Marine Safety Office, or of a given geographic area, will determine the training. By keying on specific program needs, inspectors will receive training and experience at greater levels of technical detail than is presently possible.

*Question 3.* It has been asserted that assignment to an MSO is considered by many Coast Guard officers to be an undesirable tour of duty as compared to sea duty or to other more glamorous assignments. Furthermore, there is some indication that MSO assignments may be detrimental to one's career advancement. Is there any truth to this? If so, what might be done to increase the attractiveness of MSO positions?

Answer. I do not believe there is any truth to either of those statements. In fact, assignment to a Marine Safety Office provides such a desirable opportunity for professional and personal development, that it is one of the career fields most requested by our junior officers today.

Our personnel live and work in their local community with the marine public and government officials. This environment is highly rewarding. It requires capable people willing to accept the responsibility for their individual efforts in accomplishing the Commercial Vessel Safety mission. Further, assignment to an MSO is desirable because the work accomplished is constructive, productive, and worthwhile. We are able to see the positive effects of our efforts.

Finally, and perhaps most importantly, assignment to an MSO provides a stable tour length conducive to training, advancement within the unit, and an understanding that the CVS mission does not take place in a vacuum but rather in concert with the industry, labor, and other government agencies for the protection of the public and the mariner.

The concern that "MSO assignments may be detrimental to one's career advancement is without merit. Promotion of officers within the Coast Guard is based on individual performance and not career specialty. Personnel data shows that advancement of officers having served in MSO assignments is statistically consistent with that of other service specialties. Assignment to an MSO, like any Coast Guard unit, provides the opportunity for individual excellence in the performance of duty.

I plan no action at this time to increase the attractiveness of MSO positions as I am confident that they are desirable billets and not detrimental to career advancement.

*Question 4.* What has the Coast Guard done in terms of analyzing the possibility of lengthening the intervals between reinspection of certain vessels? It has been suggested that such action would reduce the overall workload of inspectors, allowing them to do a more comprehensive job per vessel.

Answer. Considerations of vessel safety are the primary criterion for determining the interval between reinspections. We have no indication that the comprehensiveness of our inspections constitute a problem within the Commercial Vessel Safety Program, even though isolated incidents of less than optimum inspections may occur. Marine inspectors are expected to tailor the comprehensiveness of their inspections to the condition of the vessel. This decision is not governed by workload but by considerations of safety. As a result any tradeoff between length of interval between inspections and a marginal increase in comprehensiveness of inspection may be a poor one in terms of overall fleet safety. Further, the lengthening of intervals is contrary to the trend internationally, which is moving toward more frequent inspections, consonant with the historic U.S. position.

The Marine Safety Information System will provide a data resource capable of gaining new insights into the inspection process. These insights will be extremely valuable in optimizing our inspection techniques and intervals for certain vessels and components.

*Question 5.* With regard to commercial vessel inspection, the Coast Guard has had a policy of subjecting all vessels of the same class to the same level of inspection. Due to a shortfall of qualified inspectors and heavy workloads, it has been suggested that it would be advisable to identify those vessels which represent the highest potential safety risk and spend more time and effort on them than on those vessels which have a proven safety and inspection compliance record. I know the Coast Guard has taken steps in this direction. Can you give a current update on this?

Answer. The Coast Guard has never had a policy of subjecting all vessels of the same class to the same level of inspection intensity. Vessels of the same class are subject to the same frequency of inspection, but the level of intensity of our inspection has always been governed by the condition of the vessel. Recently we have gone even further to tailor our effort to the condition of the vessel. A traveling inspection staff of experienced senior officers, stationed at Coast Guard Headquarters, visits selected ports to observe the conduct of our CVS inspection program. Recently, this oversight process has been directed at vessels 20 years old or older when they are being dry docked or inspected for certification. This effort is designed to better verify the conditions being found on older vessels and insure a comprehensive, ongoing review of our inspection techniques. In addition, Headquarters staff is conducting a review of the detailed reports of inspections of these vessels completed by field offices. As mentioned in our reply to another question our soon to be implemented Marine Safety Information System inspection module will allow us to gain valuable insight into our inspection techniques and history. This insight will be helpful in policy formulation and direction to our inspectors.

*Question 6.* Coast Guard inspections appear to be based on requirements for minimum standards. Presumably, both *Poet* and the *Marine Electric* met these minimums as they both carried current Certificates of Inspection. How are these minimum standards developed (i.e. through consultation with the manufacturers/builders of the materials/equipment)? How often are these standards reviewed, including

the frequency with which they must be checked? Some standards are established in statute, for example the requirement for a hull inspection was changed from an annual inspection to a biennial inspection, by law, in 1956. Should standards such as these be a function of law or regulation?

Answer. Standards for vessel design, construction, and equipment have undergone substantial change since the first Federal requirements were enacted into law in the early 19th century. Prior to the establishment and recognition of consensus standard-making organizations, standards were principally developed within the Federal establishment. At present, over 300 vessel standards are adopted by regulation from professional organizations such as The American Society of Mechanical Engineers, American Society for Testing and Materials, and National Fire Protection Association. The remaining unique vessel standards, which have limited, non-marine utilization, are developed after statistical analysis, research or experience establishes a need. The development of these standards, through the regulatory process, utilizes the experience, expertise and opinions of the public, labor, private industry, surveyors, classification societies, and international organizations.

While there are no requirements for periodic review of our standards, by responding to casualty reviews, technological advances, and public inquiries we do, in fact, continuously re-evaluate them. The use of the regulatory process to establish standards is most desirable in that it can be made responsive to changes in technology, casualty experience and public concern.

*Question 7.* In the late 1940s, a number of civilian inspectors of the old Bureau of Marine Inspection and Navigation were directly commissioned into the Coast Guard under the 219 program. As these inspectors have left the service, what effect has it had on the quality of the Coast Guard inspection? What is being done to combat this loss of expertise?

Answer. In the 1940s a number of civilian inspectors of the Bureau of Marine Inspection and Navigation were directly commissioned into the Coast Guard. However, this was not done under the 219 Program but as part of the transfer of marine inspection functions to the Coast Guard. This transfer was accomplished in 1942 by Executive Order, issued as a temporary measure under the War Powers Act. The transfer was made permanent following the war under the Reorganization Act of 1946. The 219 Program came into being after that transfer as a means of recruiting marine inspector candidates. Although that program no longer exists, we now have the Licensed Officer of the Merchant Marine Program (LOMM), and the Experienced Licensed Officer of the Merchant Marine Program (ELOMM). These programs are specifically designed to bring licensed merchant marine officers into the Coast Guard to work in the Commercial Vessel Safety Program. In addition, we receive graduates from the various merchant marine academies through a direct commissioning program (MARGRAD). The CVS program has been a fully integrated part of the Coast Guard for over 40 years. During that period, we have developed a wealth of expertise in our commissioned and warrant officers corps. The program does not lack expertise. However, what the licensed officer of Merchant Marine and MARGRAD programs do bring to the program is a difference in experience and background which, when integrated with that of our other officers, enhances the total perspective of the inspection and enforcement process.

*Question 8.* Coast Guard inspectors testified at the *Marine Electric* hearings that the bi-annual inspection conducted in June of 1981 included a weather-tightness test, but that it was not conducted because the inspectors did not want to interfere with the operations of the vessel. Can you explain what the Coast Guard's policies are in this regard. What items of inspections can be put off; what kind of guidance is given to the field inspectors making these decisions? Is there any follow-up on items that are put off?

Answer. It is Coast Guard policy that at an inspection for certification deck openings and closures are examined for watertight integrity. This can be accomplished by a number of methods including a hose test, chalk test, or visual examination. The intent of our inspection program is to ensure that a vessel is safe and suitable for its intended service without placing an unnecessary burden upon the economic and operational needs of the marine industry. Under normal circumstances, all inspection items are completed prior to a vessel's sailing. However, this is not always practicable, and the inspectors must balance the need to delay a vessel to conduct a particular test against the additional risks that delaying a portion of the inspection may impose. Anytime a vessel is allowed to sail with uncompleted inspection items, it is based on a conscious, ship-specific, qualitative decision using the best information available. Uncompleted items are required to be completed within a specific time frame.

When a certain portion of an inspection is delayed, the inspector is required to make a brief statement in the Vessel Inspection Record indicating what items remain outstanding. During subsequent boardings by Coast Guard inspectors, the Vessel Inspection Record is examined to determine if any items remain outstanding. Any outstanding tests, examinations, and inspections are then performed by that office.

*Question 9.* 46 U.S.C. 234 requires licensed merchant marine officers to assist the Coast Guard in the inspection of their vessels and "shall point out all defects and imperfections known to them". Can you explain how this requirement is met?

Answer. Interaction between a vessel's crew and the Coast Guard inspector is a vital part of our inspection process. While our inspectors are normally accompanied by one of the vessel's licensed officers during the inspection there is ample opportunity to discuss specific vessel problems with other officers or members of the ship's crew on a confidential basis. Our inspectors are receptive to this type of input and consider the information provided in the conduct of their inspection. Additionally, the Coast Guard inspector specifically interviews the Master and Chief Engineer, and reviews the vessel's log book and other records in order to determine any known deficiencies.

*Question 10.* The *Marine Electric* was granted an extension on undergoing a required inspection. Can you explain what kind of guidelines/criteria are followed in making the determination to grant an extension?

Answer. The *Marine Electric* was granted an extension of the interval allowed between required drydockings in accordance with the authority contained in 46 C.F.R. Subpart 91.40. The vessel had not entered the extension period at the time of the casualty. At the time the extension was granted to the *Marine Electric*, the specific guidelines for evaluating requests for extensions required that, in the judgment of the cognizant Officer in Charge, Marine Inspection, the vessel could safely operate for the duration of the extension period allowed. Subsequently, additional detailed guidelines concerning drydock extensions, amplifying those in regulation, were issued to the inspection offices. These guidelines make a visit to the vessel to determine its condition a prerequisite to the issuance of an extension in all but the most unusual situations. The guidelines also require a written statement from the master or chief engineer stating that in his opinion, the vessel is suitable for operation during the extension period. A thorough review of the vessel history is also required.

*Question 11.* What are the guidelines on the acceptance of temporary repairs such as red hand patches, tape, and such? How long are they allowed before permanent repairs are required?

Answer. Red hand patches, tape, and such are not considered to be acceptable temporary repairs. While an emergency at sea may require sudden, timely, and innovative repairs involving these items, the Coast Guard considers them emergency repairs. Temporary repairs are sound repairs which permit a vessel to continue to operate for a specified period of time or voyage under conditions that consider the exposure to risk. In many instances a vessel with temporary repairs is granted a permit to proceed for permanent repairs under very stringent operational conditions. Permanent repairs are required within a time frame set after considering risk exposure, repair facility, and material availability.

*Question 12.* 46 U.S.C. 653 provides the actions which are to be taken when a crew has a complaint that a vessel is unseaworthy. Can you tell us what the Coast Guard does if they receive such a complaint?

Answer. All complaints are evaluated to determine if they come within our jurisdiction. If not, they are referred to the authority having jurisdiction. Those that are within our purview are brought to the attention of the nearest Officer in Charge, Marine Inspection. The vessel's location is ascertained, and the complaint is investigated. Where such complaints are verified, further action is taken commensurate with the type and severity of the violation. If the vessel is unfit for its intended service, a requirement to repair the vessel prior to departing the port would be issued. In severe cases, removal of the Certificate of Inspection could result. Proceedings against licensed personnel could result if they have acted improperly. Depending on the particular circumstances, the institutions of civil penalty proceedings may be appropriate.

Mr. STUDDS. The gentleman from Delaware.

Mr. CARPER. Just one more, please.

How often is a cargo vessel required to report its position or to radio in and say everything is OK and to whom is that report made?

Admiral LUSK. Sir, I am not familiar with any requirements other than the voluntary system that we encourage people to participate in, AMVER, and the requirement that the Maritime Administration has relative to U.S. vessels that are in the foreign trade, and to be honest, sir, I am not sure what the period of that is.

Mr. CARPER. So a vessel can leave port heading somewhere else and be gone for 10 days and never report its position or its condition, is that correct?

Admiral LUSK. That is essentially it, with the caveats that I mentioned, sir.

Mr. CARPER. Is that prudent in your judgment?

Admiral LUSK. I certainly think that logic would suggest that more frequent reporting requirements would be required. We do have many owners that have reporting requirements of their own, and as a result we do get notified by the owners when the vessel has not made its communications that we anticipated or the expected schedule.

One of the problems with state of the art communications other than satellite systems is that you get into periods when electromagnetic disturbances do cause you problems.

Mr. CARPER. Are we now going to use satellite communications for merchant vessels?

Admiral LUSK. These are being installed on merchant vessels.

Mr. CARPER. These are being what?

Admiral LUSK. Some of them are being installed on merchant vessels, yes, sir.

Mr. CARPER. Thank you.

Mr. STUDDS. Admiral, I want to take one moment, if I may. These are difficult kinds of questions. You are the principal spokesman in this instance for the Coast Guard, and I notice questions with fairly strong critical implications you had to handle. I would like to say that I think you have done so with unusual skill and competence, and I think that for that very reason I, given my own feelings for the Coast Guard, would like the hearing record to reflect one thing which it has not so far before you leave.

I would like to refer quickly to a statement made before the Marine Board of Inquiry by Robert Cusick, first mate of the *Marine Electric*, a constituent of mine and a man we invited today but was fortunate to have an opportunity to return to work at sea.

As you know, before concluding his own statement before the Marine Board he extemporaneously added the following:

There is no chance that I would be alive sitting here today if it hadn't been for the U.S. Coast Guard. The men that go onto those boats to come out and rescue people—it's some of the most dangerous work men can do.

And as far as the men that go on these helicopters, and even before they saved me, I had a chance to see the previous afternoon their hovering over the *Theodore* with the seas running up and down, trying to get pumps down on them. There isn't a man on the face of the earth doing anything braver than those men.

It is a funny thing to be alive when everyone else is dead, and you are expected to be dead, and a lot of times you wonder why you are alive, but I wanted to be able to thank those men, because what they did was to save my life.

We called the Coast Guard—it was after 3 o'clock. If we had another hour or even a half hour lead time, there are a lot of men that would be alive today. Gene Kelly will be able to tell you a lot more about what I'm saying now, and all I know is what he told me, but he had half a dozen men hanging on to the life ring, and a lot of them lasted for a long time, and if the Coast Guard had an hour more notice, there would have been a lot of those men saved.

I don't know if you heard the part that he told about the radio operator, Aibian Lane. Aibian Lane was hanging on to the last minute, and he was talking to him, and he turned to tell him, Sparks, here's the basket from the helicopter, get into it, and he was gone. He had been talking to him a minute before. So even in 5 minutes, if they had an extra 5 minutes, another life could have been saved.

That's all I have to say about the U.S. Coast Guard.

It seems to me that that statement belongs at this point in the record. Thank you sir.

Admiral Lusk. I appreciate it.

Mr. STUDDS. Our next witness is Mr. Eugene Kelly, former third mate of the *Marine Electric*, accompanied by Mr. Henry Howell. The House goes into session at noon; we will be interrupted for voting on the floor. When that happens, we will break for lunch and resume at 2 o'clock, wherever we have had to leave off at that time.

Mr. Kelly, Mr. Howell. I understand Mr. Howell will make the first statement and I understand he has humanely decided to shorten it enormously for us.

**STATEMENT OF EUGENE KELLY, FORMER THIRD MATE OF THE  
"MARINE ELECTRIC," ACCOMPANIED BY HENRY HOWELL, JR.,  
COUNSEL**

Mr. HOWELL. Mr. Chairman and members of the committee, I want to express the appreciation of myself and Mr. Gene Kelly, Chief Mate. Bob Cusick is at sea. He left about 2 weeks ago for his first voyage since his near fatal trip. His wife and his daughter are here. They are both constituents of the chairman, and I myself am here as a lifelong resident of the port of Norfolk.

I have represented the International Organization of Masters, Mates, and Pilots for about 30 years. I am privileged to represent in the petition for limitation of liability Mr. Cusick, Mr. Kelly, and the widow of Mr. Richards, who was the other third mate.

The members have asked a number of relevant questions, and I will try to be brief and summarize my testimony. When I received the invitation from Chairman Studts to address myself to five areas of concern of the committee, I prepared a memorandum citing the Coast Guard transcript. I hope each member of the committee has a copy, and if they don't have a copy, that they will be supplied with the same. I had it up here yesterday and 50 copies were reproduced. I don't know where they may be.

Mr. STUDDS. We will make certain that they have copies, and your entire statement will appear in the record.

Mr. HOWELL. All right, sir. I am going to skip some of the introduction. The first question was whether or not the regulations which do exist are enforced with an acceptable degree of competence, diligence, and intelligence by the Coast Guard and by those to whom the Coast Guard has delegated responsibility for inspections and other duties related to marine safety.

When I criticize the Coast Guard I am criticizing them because the Government hasn't adequately funded the Coast Guard, but in my opinion the inspection service is in a deplorable condition, it is inadequate, it doesn't serve the purpose which Congress intended.

I deal with that on page 4, and I pinpoint what Chairman Studds has already pinpointed, and that is the history of the hatch covers. These were McGregor hatch covers. They were modern when they were first designed and put on this vessel.

At any rate, we start first with the inspection that took place between December 1980 and February 1981 when the vessel was in the Jacksonville shipyard. That was when James Gydish, who was then in the Coast Guard at the time of his testimony before the investigation board, he resigned from the Coast Guard and was working for American Bureau of Shipping.

He admitted that he never saw the hatch covers in a closed position. He never hose tested them. Then he was asked by Captain Kalishio of the Coast Guard,

Would it surprise you to know that a month after, the owners—that is a month after he looked at them \* \* \* the owners had to call in McGregor, the builder of the hatch, at a cost of \$60,000 or \$70,000 to get the hatches so that they would line up and they could put tape over them to make them watertight?

Captain, I did not realize that.

We then cite what the chairman has already cited, Chales Wayne Davenport, who came on board June 8, 1981. He said, " \* \* \* I have had very little deep draft experience."

When he was asked what he did in determining the watertightness or strength of the hatch covers as a part of the drydocking inspection, he said:

"No, sir, I am not certain whether they would do that on drydock inspection. I would have to read up on it."

He admitted that he never saw the hatch covers in a closed position.

Then we get down to Chief Warrant Officer Scanlon. I think he had been on two bulk carriers before he made the inspection to determine whether the drydocking was to be extended. He never looked at the hatch covers. He never went into the bow of the vessel to examine the four peak tanks, and it was a totally inadequate inspection for a vessel that was 36 years old to determine if it should have its drydock, which was scheduled for February, extended. If it had gone into drydock, certainly lives would have been saved and would not have been lost.

In my opinion, this shows the Coast Guard does not have adequately trained inspectors. These inspectors must be trained in metallurgy, in naval architecture, in cargo loading. We are making a recommendation that the Coast Guard be funded so that they can employ independent surveyors, metallurgists, or whatever expertise is needed, and I think that is essential. You can no longer take chief warrant officers that have just come up through the ranks and, as they said, "coat-tail" some inspector for a few months, and expect them to do an adequate job in this very important field.

Now, it has been stated here that the Coast Guard relies upon the American Bureau of Shipping in order to determine the load lines certification. Well, that is one of the grossest conflicts of interest that has ever existed. I have attached as an exhibit here the

roster of the American Bureau of Shipping. I think it is exhibit 4, if I am not mistaken. It comes out of a 1978 American Bureau of Shipping manual.

I couldn't get a more recent one, but if you look at the board of managers, you get on the board of managers of the American Bureau of Shipping consistent with having a job, you give it to the American Bureau of Shipping. I can recognize Daniel Ludwig, Joseph Lykes, Stavros Niarchos, and Spyros Skouras.

I don't know where Marine Transport may be in this board of managers, but that is like putting the fox to guard the chicken coop. Here you have got shipowners who are interested in making the top dollars on the Bureau of Managers of the Coast Guard on shipping and have delegated their responsibility to determine load-line certification to the American Bureau of Shipping. I humbly submit that that should be stopped immediately.

I want to say that I am somewhat familiar with the legislative process. I know how difficult it is going to be for this committee to ever enact in the next decade any meaningful legislation, but I can look at you and know that you are going to try. I served in the House of Delegates of Virginia, the State Senate, Lieutenant Governor, and won the democratic nomination for Governor in 1977, but I just prepared the way for Governor Robb. I didn't quite make it in 1977, but I have had adequate legislative experience to know the difficulty.

I think I have covered the inquiry concerning the training and expertise of the Coast Guard. It is insufficient and inadequate.

Then the history of sinkings of these old vessels. It is awfully important. We can do nothing about the *Marine Electric*, but then many, many, many are just outstanding, this outstanding report by Mr. Dwyer, who is here today, and Mr. Frump, is about the best job of investigatory reporting I have ever seen. It is exhibit 1 in my memorandum, and one of the Congressmen has offered it as exhibit 1. I am sure that the Philadelphia Inquirer still has a few more copies left.

It is a must for this committee. I have never seen anything as well documented as is this series of articles on what is wrong with the American merchant marine. There are over 1,300 of these vessels that are over 30 years old, so there is lots of work to be done to prevent these future casualties.

There was an inquiry by one of the Congressmen, Chairman Studts, concerning the SS *Penny*, and I picked up in the publication of the Marine Engineers Beneficial Association that came on my desk recently, and it said, "Recently the SS *Penny*, a 40-year-old freighter, was issued a certificate certifying its seaworthiness for 2 years with the provision that it be drydocked and inspected within 30 days. That certificate was issued in February 1983.

Following that inspection, the *Penny* set sail with a cargo of Government grain for Egypt under the Food for Peace export program. It ran into problems immediately and was forced to stop in Bermuda for repairs to holes in the hull. Afterwards, enroute to Egypt, heavy weather was reportedly encountered, taking water over the deteriorated hatch covers and into the hold.

Following publication of the Philadelphia Inquirer giving prominence to how the Coast Guard had permitted the old ships to sail



despite serious safety violations, the certificate of seaworthiness was suspended by the Coast Guard.

I am going to conclude by making three recommendations which I would like for this committee to consider; that is, first, I think the fact that we have never changed the petition for limitation of liability requirements since the sinking of the *Morro Castle*, in case a petition has been filed. If the owners can find some excuse that is not related to the unseaworthiness of a vessel, their liability will be limited to pending freights, which in this case is a total of about \$189,000 for 31 families that have been left as a result of the death of their breadwinners. If that sum does not come up to the value of the claims, they throw in \$60 a ton for the vessel.

I think the fact that petition for limitation of liability was first passed in 1951 or thereabouts, when Congress was trying to promote a merchant marine in a young Nation that had no merchant marine, and I don't think it is needed any longer. It is really a petition to limit the liability of the underwriters, and if it was done away with, I think shipowners would be more careful in the maintenance of their vessels. Certainly the fund that is available to the widows should be increased.

The second legislation that I suggest, I know that one of the distinguished Congressmen was asked about what can be done to the personnel of a vessel, from the captain down to the wiper in the engine room, can have their license revoked by the Coast Guard for life or for an intermediate period of time, but nothing can be done to the owners. I am suggesting legislation—you will have to check the constitutionality of it, because due process has got to be preserved. But if in this case there was Mr. Felge—he is the port engineer of Marine Transport, and Mr. Cusick gave him a diagram in December showing 90 wasted areas on these hatch covers, and that is attached as an exhibit, out of the Coast Guard proceedings, over 90 was given to Mr. Felge, and he did nothing about it.

Now, if Mr. Felge had thought that the Coast Guard, after inspection, when they found a willful dereliction of duty upon support systems, that they could assign that case to the administrative law judge, and that he might lose his right to work on the waterfront for 6 months, then I don't think he would be so anxious to cover up for the owners, and twist another 6 or 10 payloads between Norfolk and New England Power Co.

Then the third recommendation that I would like to make was concerning eliminating the American Bureau of Shipping, and that we fund the Coast Guard, because they are a small body of great people, it is impossible for them to discharge their responsibility, and we should reassign to other agencies some of these responsibilities if we are not going to fund them adequately, and let them concentrate on safety of life at sea.

Thank you.

Mr. STUDDS. Thank you.

[The statement of Mr. Howell follows:]

## STATEMENT OF HENRY E. HOWELL, JR.

I. INTRODUCTION

Congressman Studds and Member of the Subcommittee on Coast Guard and Navigation of the Committee on Merchant Marine and Fisheries, I express my appreciation and the appreciation of Robert M. Cusick, former Chief Mate of the "MARINE ELECTRIC", Eugene F. Kelly, Jr., who is here today, former Third Mate of the "MARINE ELECTRIC", and Mrs. Mary Jayne Roberts, the widow of former Third Mate Richard Roberts who was one of the thirty-one (31) persons who drowned on February 12, 1983, when the "MARINE ELECTRIC" turned over and sank in the Atlantic Ocean approximately 30 miles off the coast of Chincoteague, Virginia, for extending to me the opportunity to appear before your Subcommittee.

I have been practicing law in Norfolk, Virginia, for 39 years and for 30 years I have been the local attorney for the International Organization of Masters, Mates and Pilots.

I am advised that the purpose of these hearings is to examine the overall effectiveness and efficiency of the Marine Safety Program of the United States Coast Guard and determine whether the current statutory and regulatory framework is appropriate to minimize the likelihood that marine accidents will occur in the future.

I am further advised that some of the specific questions to be addressed by this Subcommittee are as follows:

- (1) Whether the regulations which do exist are enforced with an acceptable degree of competence, diligence and intelligence by the Coast Guard and by those to whom the Coast Guard has delegated responsibility for inspections and other duties related to marine safety.
- (2) Whether inspectors are adequately trained and supervised, and whether they have sufficient information available to them to target their endeavors in an effective manner.
- (3) Whether the Coast Guard has the ability to use lessons learned from past tragedies to avoid future mistakes.
- (4) Whether the Coast Guard has enough expertise, money and personnel to do the job it has been asked to do.
- (5) The overall safety of the U. S. flag fleet.

As suggested by this Subcommittee, we will present our opinions relating to these issues based upon the lessons that can be drawn from the "MARINE ELECTRIC" tragedy.

## II. OBSERVATIONS

At the outset, we wish to direct the Subcommittee Members' attention to a series of articles presented by The Philadelphia Inquirer staff writers, Robert R. Frump and Timothy Dwyer, published May 1, 1983 through May 3, 1983.

We would like to see these very thorough and revealing articles made a part of this record and we offer a copy with our testimony, marked as Exhibit "1" for identification.

The record that has been made so far before the Coast Guard Board of Inquiry looking into the sinking of the "MARINE ELECTRIC" has, in my opinion, established that the vessel was too old, too deteriorated and totally inadequate to haul cargoes of coal or any other cargo in the Atlantic Ocean, either coastwise or transoceanic. This is the reason it turned over and sank causing thirty-one (31) members of the United States Merchant Marine to lose their lives in the early morning hours of February 12, 1983.

The investigation of reporters Frump and Dwyer establishes the reason these antiquated vessels are still afloat, namely, United States law reserves cargoes for the American fleet, assuring demand. The very high construction cost in American shipyards -- sometimes treble those in foreign shipyards -- means that very few new ships are built. A graph appearing on page 5 of The Inquirer shows that the United States of America exceeds every other nation in vessels thirty years of age or older.

The laws of this nation require a United States Flag ship, vessels receiving cargo preference or ships in the domestic trade, for all practical purposes, to be built in the United States shipyards. Insufficient ships have been built in United States yards in recent years to afford an adequate number of seaworthy vessels to carry the cargoes and, therefore, vessels thirty years or older are being used.

It is the obligation of the marine superintendents and port engineers of the companies operating these antiquated and unseaworthy

vessels to keep them patched up and do whatever is necessary to obtain the necessary certifications from the United States Coast Guard and the American Bureau of Shipping.

- (1) Regulations Which Do Exist Are Not Enforced With An Acceptable Degree Of Competence, Diligence And Intelligence By The Coast Guard Or Those To Whom The Coast Guard Has Delegated Responsibility For Inspections.

The inefficiency of the current inspection personnel and procedures is easily established by an examination of the facts relating to the condition of the hatch covers of the "MARINE ELECTRIC."

Originally, a modern, effective set of hatch covers was installed on the "MARINE ELECTRIC" after she was jumboized. However, the years had taken a toll on these hatch covers and by the time the vessel drydocked at Jacksonville, Florida, in December 1980, which was completed February 24, 1981, the covers were riddled with holes.

The hatch covers were removed and sent to another shipyard to be repaired. They were not returned to the ship until February 23, a day prior to sailing. The hatch covers were in open position on that date and were in worse condition than prior to arrival at the shipyard in that the holes had not been effectively repaired and improper gaskets had been supplied and did not fit the covers. The hatch covers, which were essential to watertightness, were in such condition that Marine Transport had to employ MacGregor Land & Sea on March 8, 1981, to commence temporary repairs so the covers would at least open and close. (See report of MacGregor Land & Sea, Ex. 44-L attached to this report marked as Exhibit "2" for identification).

The entire report of MacGregor should be read carefully by this Subcommittee and it will be noted that the "MARINE ELECTRIC" sailed from the Jacksonville shipyard with covers which did not come together

in the cross joints and in some areas the junction assemblies did not connect and the cross joint compression bars were out of contact with the rubber gasket. Recently fitted compression bars on the cross joints were distorted. The top surface plates of the panels had been patched and in some cases there appeared to be distortions of the panel. Mr. Maxwell Graham signed the report stating, in conclusion:

"Once again it is emphasized that the panels are not considered watertight and much work is required to make them so."

The first Coast Guard inspector involved in passing these unseaworthy and inadequate hatch covers was James Gydish. Mr. Gydish obtained his experience in the field and he had worked his way from an enlisted person to Lieutenant and at the time of his appearance before the Coast Guard he had resigned from the Coast Guard and was employed by the American Bureau of Shipping.

At page 441 of the transcript of the testimony adduced by the Coast Guard Board of Investigation, Captain Calicchio inquired:

"Q. Would it surprise you to know that a month after, the owners had to call in McGregor, the builder of the hatch, at a cost of I think \$60,000 or \$70,000 to get the hatches so that they would line up and they could put tape over them to make them watertight.

A. Captain, I did not realize that."

At page 432, Coast Guard Inspector Gydish was asked if he had looked at the hatch covers when the vessel arrived and he replied:

"No, sir."

He admitted he never examined the hatch covers when they were closed.

Since these were accordian type covers they could not be examined when they were open.

Chief Warrant Officer Charles Wayne Davenport inspected the vessel on June 8, 1981. Most of his experience had been on T boats and small passenger vessels. He testified: (Tr. 1806)

"\*\*\* I had very little deep draft experience at that time, and that is the reason that I was more or less under the guidance of the engineer; if I had any doubt, that I would check with him."

The Coast Guard Inspector was referring to the Chief Engineer of the "MARINE ELECTRIC".

When asked if in determining watertightness or strength of the hatch covers was a part of the drydocking inspection, Chief Warrant Officer Davenport replied:

"No, sir, I am not certain whether they would do that on drydock inspection. I would have to read up on it."

This inspector never required the hatch covers to be closed. They were always open and, therefore, he was unable to test the covers.

He admitted at page 1833 of the transcript that he had never inspected or witnessed the inspection of any other MacGregor hatch covers.

The "MARINE ELECTRIC" was scheduled to undergo drydock inspection in February 1983 and Marine Transport Lines was desirous of keeping the vessel in service during the winter months in order to make more trips delivering pay loads of New England Power Company. Accordingly, it requested an extension of the drydocking and notwithstanding the age of the vessel the Coast Guard only conducted one inspection and it was performed by Michael J. Scanlon, Chief Warrant Officer, who had been a marine inspector for approximately five years and had gained his training in the field.

Mr. Scanlon had only done two mid-period inspections of bulk carriers in his entire career. (Tr. 1875).

He described his training as follows: (Tr. 1900)

"Q. And how about in Providence, which is your office? What kind of training did you get, hands-on training?

A. We coat-tailed a training inspector as much as possible, and informal lectures in training by the XO, CO and other training inspectors, as different problems arose.

Q. How long did you follow this experienced inspector around?

A. Off and on probably, oh, six months."

During this six month period, Chief Scanlon never boarded any vessel that had hatch covers on it. (Tr. 1901). He never received any instruction as to how to inspect hatch covers. He was asked (Tr. 1901):

"Q. During this break-in period, were any instructions given you as to the inspection of hatch covers?

A. No, sir."

He had only inspected six life boats in his career.

The Chief, although he was making an inspection to ascertain if the vessel's drydocking date could be extended, admitted: (Tr. 1907)

"We didn't enter any of the closed ballast tanks or void spaces."

He made no inspection of the hatch covers. (Tr. 1910).

The following questions with reference to the life boats and the hatch covers were asked: (Tr. 1910-1911)

"Q. Isn't it common, if you see that type of heavy scaling on a lifeboat, to bring it down to bare metal so you can get a good assessment of the plate thickness?

A. Yes.

Q. Was that done on any of these occasions?

A. No.

Q. Now, I'm going to ask you another question on the hatch covers, and this is reverting back to your last inspection of the vessel, the special inspection, and I know you were there for an extension



of drydock. Did you go out on the main deck at all where you could see the hatch covers?

A. The only part of the main deck I went on at all, sir, was the space from the gangway to the afterdeck house, or the deckhouse, or superstructure.

Q. So you didn't see any hatch covers then?

A. No, sir."

On December 22, 1982, Chief Scanlon recommended a short drydock extension, notwithstanding the condition of the hatch covers and life boat.

In February 1983, less than two months from Chief Scanlon's inspection the #2 life boat showed deterioration and rust.

Photographs of the life boat, Exhibit 59 in the Coast Guard Inquiry, are attached hereto marked as Exhibits 3 a, b, c and d.

In early 1983, Chief Mate Robert M. Cusick made a sketch of the holes existing in the hatch covers of the 5 cargo hatches. These sketches were introduced as Exhibit 20 at the Coast Guard hearings and a copy of the same is attached hereto marked as Exhibit 4 for identification. The sketch reveals over ninety areas of waste and deterioration.

It is submitted that if either Lieutenant Gydish, Warrant Officer Davenport or Warrant Officer Scanlon or the American Bureau of Shipping surveyor, Serge V. Simeonides, had inspected the hatch covers they would have been found deteriorated and they would have rejected the vessel as being fit for sea. Admittedly, they made no inspection, no hose test or any other test of the hatch covers.

The failure to see the condition of the life boat that must have existed in December 1982 when Chief Warrant Officer Scanlon made his inspection is unexplainable and inexcusable.

(2) The Coast Guard Is Not Adequately Trained  
And Supervised.

For the Coast Guard to adequately discharge its responsibility for the inspection of older vessels such as the "MARINE ELECTRIC" and the other jumboized World War II T2 tankers, requires training in the fields of naval architecture and metalurgy.

Our discussion above indicates the significant lack of experience possessed by the Coast Guard personnel who had the responsibility of inspecting the "MARINE ELECTRIC".

Lieutenant James Gydish recognized his lack of experience when he offered the following recommendation to Captain Lauridensen, the Chairman of the Coast Guard Board of Inquiry:

"Well if you've got an old T2 tanker or whatever, I believe that an OCMI should make a few visits to that ship and take a look around himself. Don't leave it up to the eyes of the inspector. He might pick up something from years of experience that he missed. It's as simple as that."

The Coast Guard recognized its lack of adequately trained personnel to inspect vessels. The Coast Guard has, in fact, delegated much of its responsibility to the American Bureau of Shipping (hereafter referred to as "ABS"). This creates a clear conflict of interest. The ABS is paid for its services by the owners of the ships it inspects. Whenever a shipping company has a lot of ships to give to ABS, it is made a member of ABS's Board of Managers. We do not have an update of ABS Rules for Building and Classing but in 1978 the Board of Managers included ship owners names who can be recognized, Daniel K. Ludwig, Joseph T. Lykes, Jr., Stavros S. Niarchos, Spyros S. Skouras, etc. A

copy of Appendix D, page 1 from the 1978 Rules of ABS is attached hereto and marked as Exhibit 5. This Committee's attention is called to the roster of the Board of Managers.

- (3) The Coast Guard Can Best Explain To This Committee Why "MARINE ELECTRIC"-Type Bulk Carriers Have A History Of Sinkings and Failures.

As pointed out on page 3 of The Philadelphia Inquirer series the MARINE SULPHUR QUEEN, a similar-type bulk carrier sank on February 4, 1963, with a loss of thirty-nine lives. In 1961 the MARINE MERCHANT sank in the North Atlantic. In 1943 the ESSO MANHATTEN split in to. In December 1960, the PINE RIDGE broke into two pieces, killing seven men. The POET vanished on October 24, 1980 with a loss of thirty-four lives. Notwithstanding the fact that these sinkings involved older vessels, most of which had been originally constructed as T2 tankers, there have been no improvements in the inspection personnel or procedures of the United States Coast Guard.

More recently, the SS PENNY, a forty-year old freighter, was issued a certificate certifying its seaworthiness for two years with the proviso that it be drydocked and inspected within thirty days. That certificate was issued in February of 1983. Following that inspection the PENNY set sail with a cargo of government grain for Egypt under the "Food for Peace" export program. It ran into problems immediately and was forced to stop in Bermuda for repairs to holes in the hull. Afterwards, en route to Egypt, heavy weather was reportedly encountered, taking waters over the deteriorated hatch covers and into the holds. Following the publication of The Philadelphia Inquirer

giving prominence to how the Coast Guard had permitted old ships to sail despite serious safety violations, the certificate of seaworthiness was suspended by the Coast Guard. This information appears in the June edition of The American Marine Engineer publication of the National Marine Engineers' Beneficial Association.

It should be noted at this point that the various inspections of the "MARINE ELECTRIC" failed to disclose that the strainers on the roseboxes which were designed to pump water from the hatches had been plated over and were no longer operative. In addition the integrity of the dry cargo space in the fore peak of the vessel had been violated by having doors that could not be secured.

- (4) The Coast Guard Has Not Been Supplied  
With Sufficient Expertise, Money And  
Personnel To Do The Job That Congress  
Has Assigned To It.

The government, and not the Coast Guard, is responsible for many of the deficiencies of the Coast Guard.

In recent years the Coast Guard has not had sufficient funds and this was prior to the severe budget curtailment order by the current administration. This Committee should examine carefully the various responsibilities that have been placed upon the Coast Guard and adequately fund this important agency to discharge its responsibilities or reassign some of the responsibilities to other existing agencies.

- (5) The United States Flag Fleet Is Not  
Adequate or Safe.

The Congress is becoming increasingly aware of the inadequacy of

the merchant marine of this nation. The Philadelphia Inquirer points out on page 2 that the United States merchant fleet has 1,325 ocean-going vessels thirty years old or older. Industry standards set normal lifetime of a merchant vessel at twenty years.

Until the economic climate is such that shipowners can afford to build vessels in the United States shipyards and compete in the outside market of shipping, there will be very little improvement in the conditions of the United States merchant marine.

It should be national policy to insure that this country has a viable merchant fleet. Such a fleet should be considered an essential spoke in our military defense program.

### III. RECOMMENDATIONS

I propose that the quickest way to minimize shipowners sending unseaworthy vessels to sea in search of maximum profit is to make shipowners more accountable to the deadly consequences of their actions. To achieve this result I recommend the following legislation:

- (1) Abolish Or Amend The Statutes Relating To Limitation Of Liability.

If a shipowner operates an old vessel which sinks with loss of lives or personal injury, and can establish that the sinking and casualties were due to personnel error and not due to the unseaworthiness of the vessel, such an owner may file a petition to limit its liability to the claimants. Under 46 U.S.C.A. §183 et seq., an owner may limit its liability to the value of the vessel and pending freight. In the instant case, Marine Transport has stated that the appraised value

of one life boat is \$500.00 and the value of the pending freight is \$189,805.70. The sum of these figures the shipowner submits constitutes his responsibility to the thirty-one families and three survivors of the "MARINE ELECTRIC". Paragraph (b) of §183 provides that when the amounts referred to above are not sufficient to pay losses in full, then the sum tendered by the owner shall be increased by the owner to a sum equal to \$60.00 per ton of the vessel. However, if this provision be applied, it still will not create a fund that will even approach a sum necessary to compensate the widows and children of the deceased or the survivors.

Benedict on Admiralty, Vol. 3, covering the subject of limitation of liability, indicates on page 31 that the principle of limitation of liability is a creature of the general maritime law and is not recognized either by the common law or by the civil law.

Congress passed the first statute to limit liability in 1851 in order to advance the creation of a merchant fleet in this nation. An individual could invest in the construction of an oceangoing vessel and would be protected against unforeseen loss not attributable to the unseaworthiness of the vessel. In those early days there was a limited market for insurance covering such a risk.

The only significant change in the sum that an owner claiming limitation would have to contribute was made in 1935 following the sinking of the MORRO CASTLE. At that time the provision requiring the deposit of a sum equal to \$60.00 per ton of the gross tonnage of the vessel under certain limited circumstances was passed.

The condition of many of the vessels that constitute our merchant fleet and the high exposure to death or injury of the members of the merchant marine dictate abolition of the limit of liability or, at least, a substantial increase in the fund to the survivors.

All oceangoing vessels are adequately insured and the right to limit liability no longer accrues to the shipowners but to the shipowners' underwriters. The extension of this protection blunts the concern of owners, port agents and marine superintendents to exercise due diligence to see that old vessels are retired and prior to retirement are adequately maintained.

- (2) Legislation Should Be Passed Granting  
The Coast Guard Authority To Cite  
Operating Personnel Of the Company  
Engaged In the Shipping Business For  
Negligence And Neglect In Maintaining  
Seaworthy Vessels.

In the instant case, the marine personnel of Marine Transport Lines failed to maintain the hatch covers, failed to maintain the integrity of the forward compartment of the vessel; failed to maintain operating roseboxes so that water going into the hull could be promptly pumped out; and failed to maintain the life boats of the vessel.

At the present time the Coast Guard can prefer charges against the master or any crew member and can suspend the license of that master or crew member for a period of time or for life. However, the Coast Guard can take no action against a marine superintendent who willfully fails to maintain a vessel and which failure results in the sinking of a vessel.

Since the Coast Guard has no authority to prefer charges the Administrative Law Judge has no authority to take action against such persons.

If a marine superintendent knew that his efforts to comply with the company's desire to make a maximum number of runs over a given charter period could result in the suspension of his right to work on the waterfront for a given period of time, he would be less apt to turn his head and blink at patent deficiencies in the vessel he was responsible for.

I have not had an opportunity to research the drafting of such legislation and realize that the guarantees of due process must be rigidly adhered to.

- (3) The Coast Guard Must Cease Relying  
On The ABS As Support Personnel  
To Certify The Seaworthiness Of  
Vessels.

We have heretofore documented the conflict of interest that is created when the Coast Guard relies on the ABS as justification, in whole or in part, for the issuance of certificates of seaworthiness. The fact that the ABS is paid by the owners and owners serve on the governing board of ABS disqualifies ABS as independent surveyors.

The Coast Guard should be funded so that it could obtain the services of independent surveyors trained and educated in the fields of naval architecture, metalurgy and cargo loading.



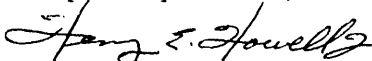
IV. CONCLUSION

By reason of our legislative experience, we are fully aware of the difficulties that will face this Committee in enacting amendments essential to a viable merchant marine.

My interest is the same as that of this Committee, to protect the men and women who serve in the merchant marine of the United States and their spouses and dependents. This group does not have and will not have a lobbying influence that even approaches that of the interests who have resisted needed changes in the past and who are contemplated to resist such changes in the future.

We leave with the hope that this Committee can persuade Congress to at least take action that will minimize the reoccurrence of disasters similar to the "MARINE ELECTRIC" and the other vessels referred to in these comments.

Respectfully submitted,



Henry E. Howell, Jr.

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## OFFICE REPORT

*John H. Kelly*  
 10/99

NAME OF VESSEL MARINE ELECTRIC DATE OF SERVICE 3/8-3/16/81  
 LOCATION Baltimore, MD HULL NO. 431 YEAR BUILT 1962  
 DUNING YARD Bremer Vulkan SERVICE REQUESTED BY Marine Transport Lines  
Venezuela 5 Hanover Square  
Marine Coal Transport New York, NY 10004  
Wilmington, DE

## CHARGES AUTHORIZED BY

NO. OF COVERS Single Pull P.O. # 361-22027R  
 NO. OF COVERS 7  
 ARE PARTS ON BOARD Yes  
 INSPECTION MANUAL ON BOARD No

REASON FOR SERVICE Covers will not open or close correctly.

NOTE: On the preliminary visit to the vessel the covers were observed. They did not come together at the cross joints; in some areas the junction assemblies did not connect and the cross joint compression bars were out of contact with the rubber gasket. Recently fitted compression bars on the cross joints were distorted. The top surface plates of the panels had been patched and in some cases there appeared to be distortions of the panel. After some discussion it was agreed that the condition of the cross joint sealing arrangements could not be properly ascertained until the chains had been adjusted. It was therefore decided to adjust the chains and repair as required to get the panels to operate without resorting to chain falls and to come together at the cross joints sufficiently square to enable sealing tape to be used.

Returned and boarded vessel at Falls River, Connecticut. Commenced work as and when cargo work permitted.

(1) Bolt: Cropped out bent axle on 'a' panel starboard side guide roller. Furnished fitted and welded in place one (1) new axle with hubs and guide roller. Furnished and renewed guide roller on port side 'a' panel. Furnished and fitted new guide rollers on port and starboard side of 'd' panel. Furnished and fitted four (4) new single link plates and seven double link plates, renewed all shackles. Adjusted towing chain lengths and operated panels. Panels came together with the exception of 'a/b'. Cropped and trimmed new compression bar on 'a' panel until panels came together. Operated panels and checked.

Service Manager

Date

Serviced By

☐ CHAMFORD ☐ NEW ORLEANS

VAC 12

Service Engineer

Date

☐ HOUSTON ☐ SAN FRANCISCO

Exhibit 2

576

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11 115 Broadway Street

Concord, N.J. 07015

(609) 272-1840

11 375 Mendocino Street

San Francisco, Cal 94124

(415) 263-1840

11 17391 Huber Court

New Orleans, La 70127

(504) 246-1540

11 4200 S. Kingside, Suite 1030

Houston, Texas 77001

(713) 641-3606

## OFFICE REPORT

OF VESSEL MARINE ELECTRIC DATE OF SERVICE 3/8-3/16/81 A/S # 10799  
 ATION Baltimore, MD

OF CONTAINER #2 Hold: Furnished and fitted two (2) new guide rollers to 'a' panel. Furnished

and fitted four (4) single link plates and removed shackles. Adjusted towing chains and

operated panels. Cropped 1/2" from 'b' panel cross joint compression bar to lower height.

Cropped new compression bar on 'd' panel to get it to same height as old compression bar on

same panel. Straightened gasket retaining channel on 'd' panel. Removed rubber and straightened

gasket retaining channel on 'e' panel. Replaced rubber gasketing. Removed rubber gasket

on 'f' and 'g' cross joints and cropped retaining channels to establish clearance with foam-

ing compression bar. Refitted rubber gasketing.

#3 Hold: Furnished and fitted one(1) new guide roller to 'a' panel port side. Furnished and

fitted four (4) single link plates, ten (10) double link plates. Adjusted chains and operated

panels. Removed rubber from 'p' trailing edge. Cropped 1/2" from height of channel to establish

clearance with coaming. On this hold the 'a' panel is badly distorted and will not set down on

coaming. The junction piece assemblies are not connecting and the channels/compression bars

are in incorrect positions relative to each other.

#4 Hold: Furnished and fitted new guide roller complete with axle and wheels to port side 'h'

panel. Furnished and fitted four (4) single link plates and adjusted chains. Operated panel.

Trimmed cross joint compression bar on 'a' panel. Cropped off and refitted junction assembly

and trimmed cross joint compression bar on 'b' panel. Cropped out and renewed 20 feet of

compression bar on 'c' panel. Trimmed the compression bar on 'd' panel. Removed 5 feet in

center of 'e' panel. Straightened and trimmed compression bar on 'f' panel. Straightened

rubber retaining channel on 'g' panel.

#5 Hold: Removed guide roller, cropped out old axle. Furnished and welded new axle. Fitted

roller. Adjusted chains and operated panels. Removed rubber, cropped channel to establish

clearance at coaming when opening and then replaced rubber gasketing.

It is to be noted that all the work carried out was only to bring the panels to a condition

where they could be operated normally without resorting to chainfalls and jacking, and also

to bring the cross joints together sufficiently to allow sealing tape to be fitted. No chalk

tests or hose tests were carried out.

In order for the cross joint sealing to be effective it is necessary that the compression

Service Manager

Date

Served By

☐ CRANFORD ☐ NEW ORLEANS

11 111 Denny St  
 Oakland, CA 94612  
 (415) 265 6663

11 1111 Harbor City  
 New Orleans, LA 70127  
 (504) 266 1560

11 345 Mendocino Street  
 San Francisco, CA 94124  
 (415) 265 6663

11 40015 West Ave, Suite 103H  
 Houston, Texas 77017  
 (713) 641 3500

## OFFICE REPORT

OF VESSEL MARINE ELECTRIC DATE OF SERVICE 3/8-3/16/81 A/S # 10/99  
 on Baltimore, MD  
 CONTINUED and channels be refitted correctly relative to each other. The 'a' panel on  
ber 3 hold is particularly bad and should be removed. Distortions on other panels of #3  
ld can be repaired.  
ossible method of making such renewals and repair without affecting the vessel's schedule  
ld be to replace 'a' panel with a new panel. Repair 'a' ashore and fit in place of 'a'  
el. Similar change covers can be done for 'b' through 'f' panels.  
e again it is emphasized that the panels are not considered watertight and much work is  
ntered to make them so.

Service Manager Max Graham

3/23/81  
 Date

Serviced By

☐ CHARTERED

☐ NEW ORLEANS

**BEST AVAILABLE COPY**

June 22, 1981  
LSC 25181

Marine Transport Lines, Inc.  
5 Hanover Square - 5th Floor  
New York, NY 10004

Attention: Mr. J. Thelgie

Gentlemen:

MacGREGOR Land & Sea is pleased to submit the following course of action to Marine Transport Lines, to be carried out on the M/V MARINE ELECTRIC by MacGREGOR Land & Sea on a sea-going basis as and when directed. It must be stressed that this course of action, which has been arrived at only after a carefully detailed study of the ship's hatch cover problems and discussions with Mr. J. Thelgie of Marine Transport Lines, is not an "authorized" MacGREGOR repair. The plan represents a compromise between the requirements of Marine Transport Lines and our views as to proper repairs to achieve maximum results. What has been arrived at is not an "authorized" MacGREGOR repair.

In our opinion, the only way that the correct degree of watertightness and operational safety can be achieved is by extensive shore side repairs to the existing panels or by complete replacement.

In accordance with Marine Transport Lines' wishes, MacGREGOR Land & Sea will:

1. Make such adjustments, replacements and repairs as is required to ensure the safe and satisfactory operation of the covers on holds 1 through 5.
2. Make adjustments and repairs as required in order that adjacent panels are sufficiently level and adjacent to enable sealing tape to be fitted at cross joints as per your specific request.
3. To repair such steel areas as is required to maintain weather-tightness considering your expressed desire to fit sealing tape to the hatch covers of your ship.

The above work will be carried out aboard the M/V MARINE ELECTRIC by a sea-going maintenance crew working a 12 hour day at the current rate of \$600/day per man plus expenses. The vessel will provide proper food and accommodations for the MacGREGOR crews during each voyage.



MacGREGOR Land & Sea Inc. (N.Y.C.)

135 Denmore Street  
Camden, N.J. 07016  
Telephone: (201) 272-0440

Cable:  
MACROMAR CHAN ODNNEWJENSEY  
WU Telex:  
13-6618 MACROMAR CNFD

**MacGREGOR**  
**LAND-SEA**

*Long ago repairs to  
M/V Marine Electric  
J.E.*

*P. 1/81*

*gn mattheus*

TO: Mr. J. Thelgie	By: <i>gn mattheus</i>
Re: Hatch cover repairs	Date: <i>6/25/81</i>
For: 11	
Subject: Hatch cover repairs	

*MacGREGOR*

Page 2

On completion of each voyage, a progress report will be submitted to Marine Transport Lines detailing work accomplished and current cost as from the end of the preceding voyage. While MacGREGOR Land & Sea cannot accurately estimate how much time and labor is required to carry out the above repairs, it is agreed that MacGREGOR Land & Sea will perform a maximum amount of repairs for a not to exceed sum of \$\$260,000.

~~MacGREGOR Land & Sea does not recommend or guarantee this type of repair but will carry out the wishes of Marine Transport Lines in this instance to the best of our abilities.~~

Sincerely yours,



Maxwell S. Graham  
Operations Manager

MSG:brl

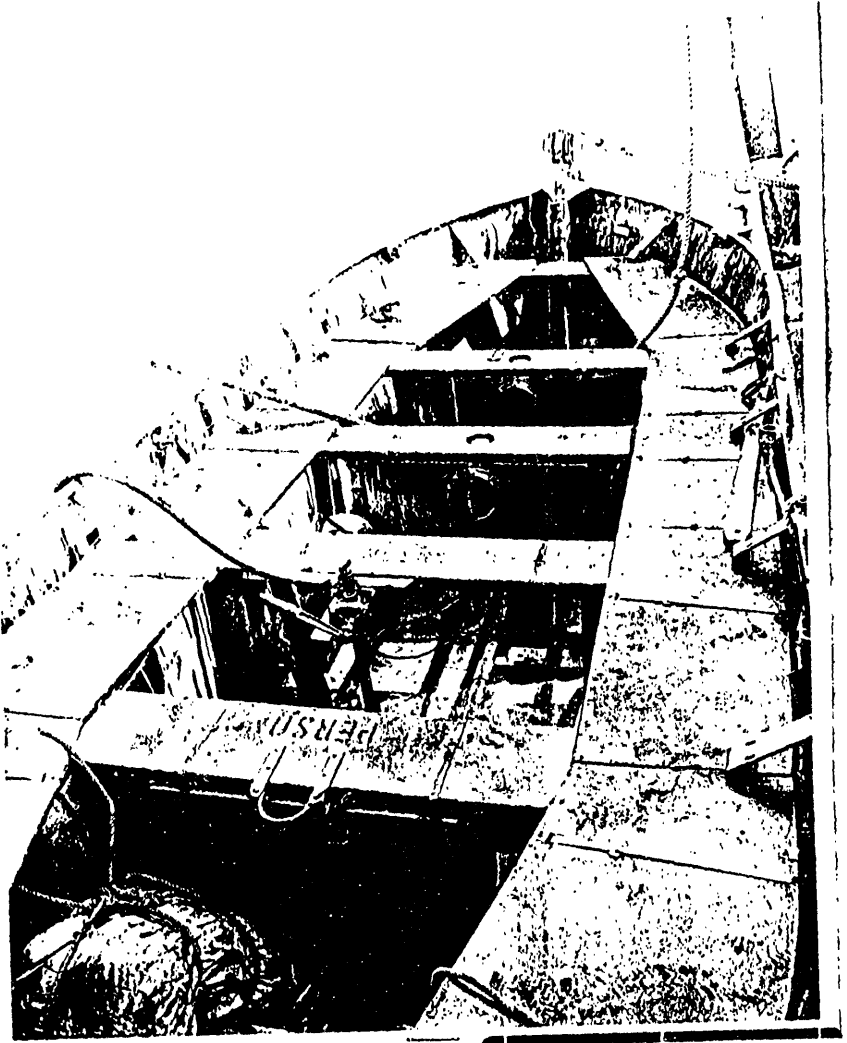


Exhibit 3 a, b, c and d









10 Lx 20	Resp 1x	Alt 1x
Re		
For Id	Admitted	Date
Substitution authorized		

W/CH# 2

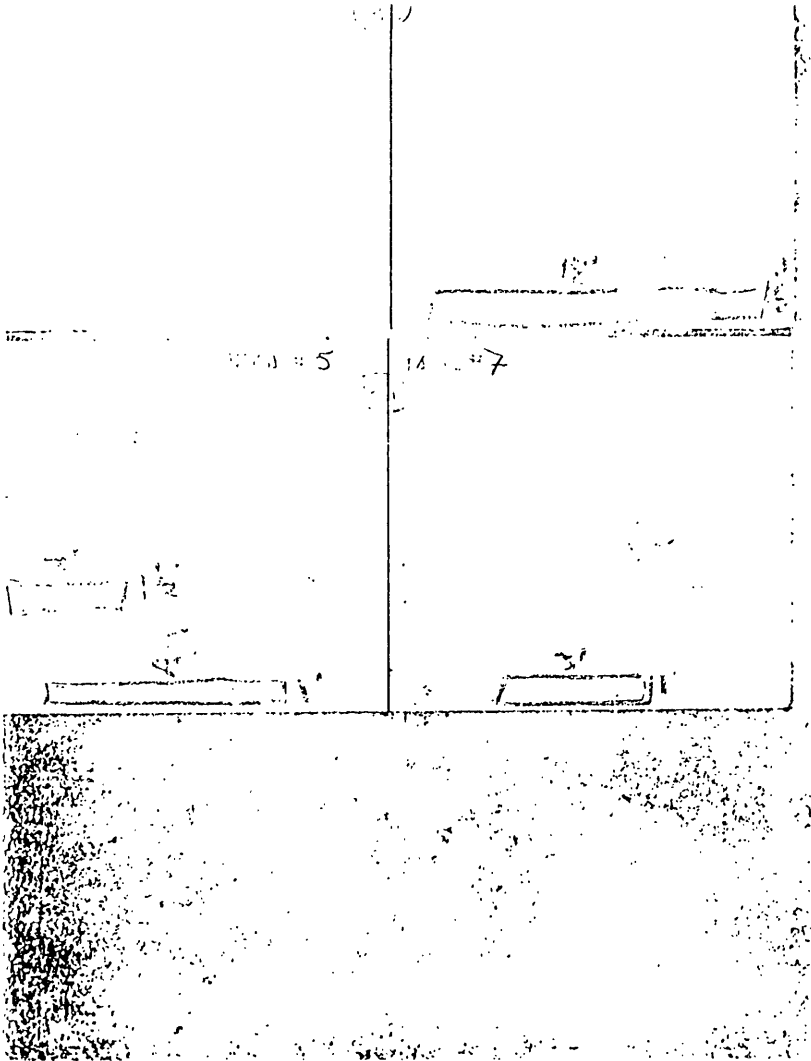
W/CH# 3

W/CH# 2

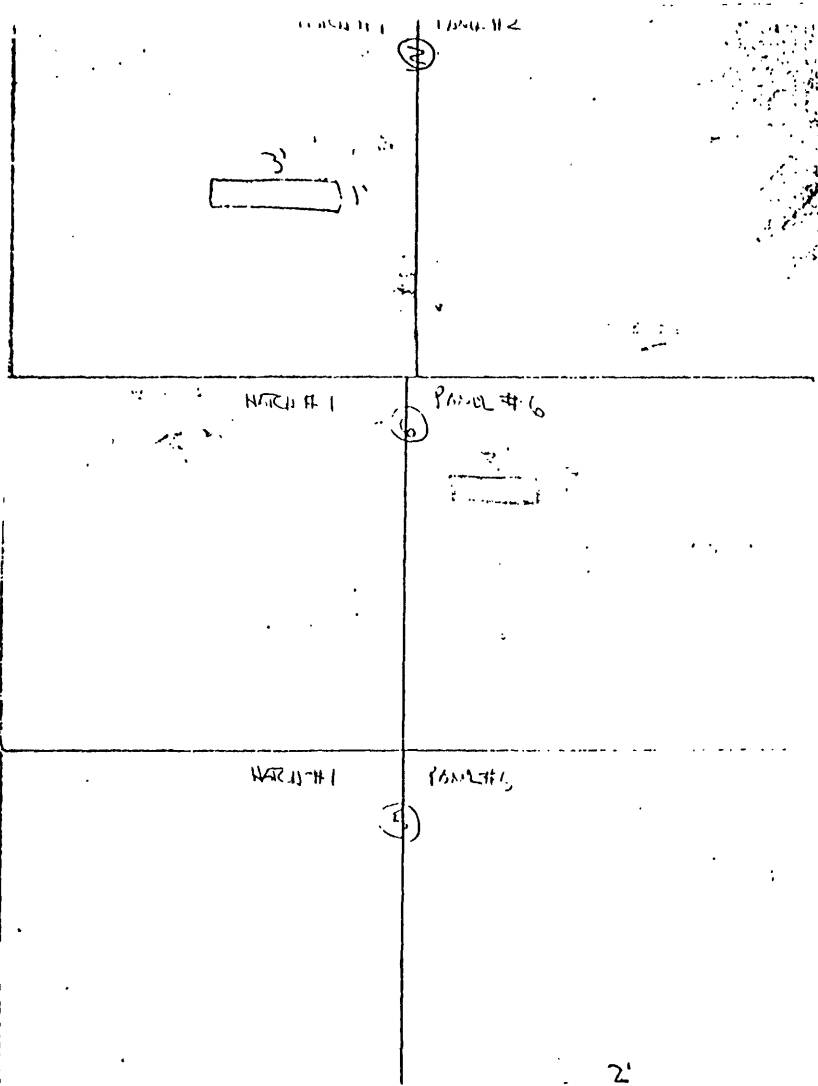
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(10)

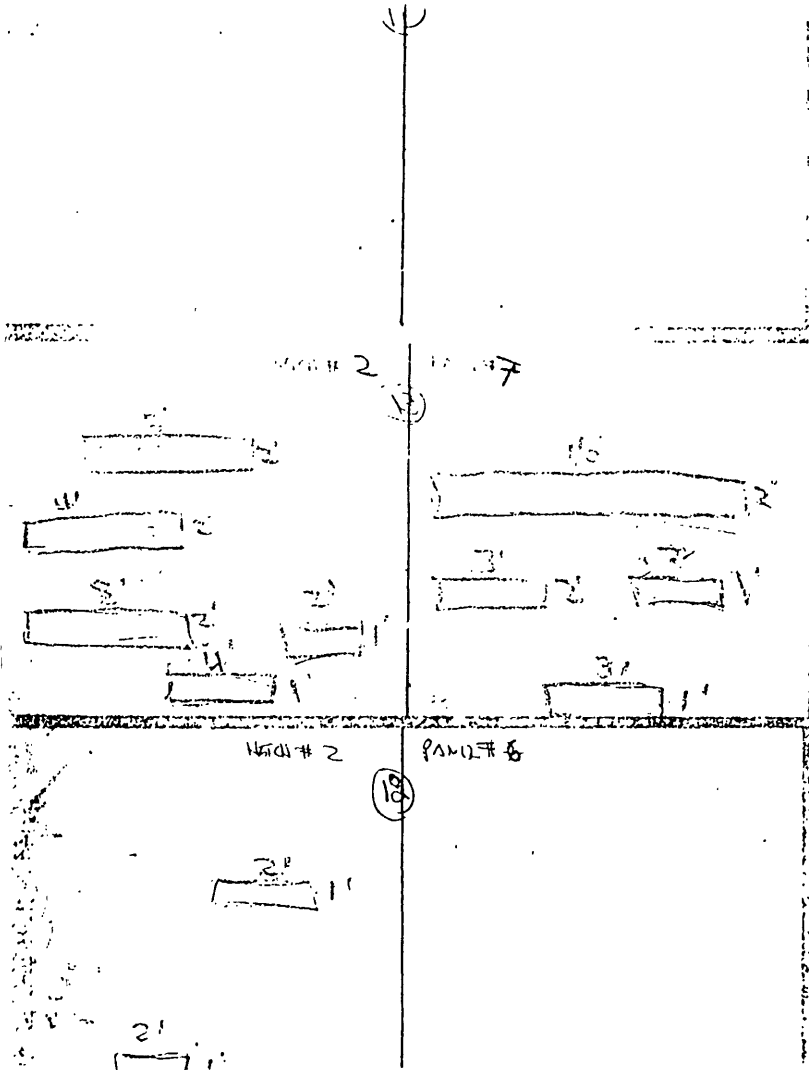
Exhibit 4



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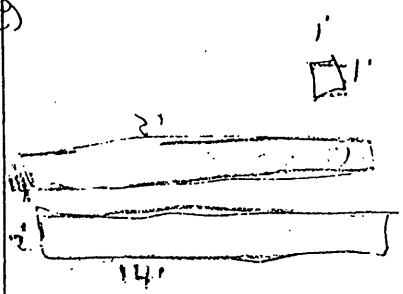
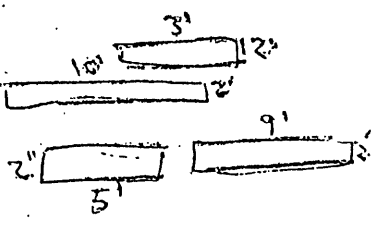


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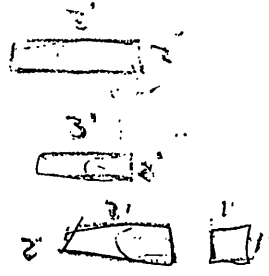
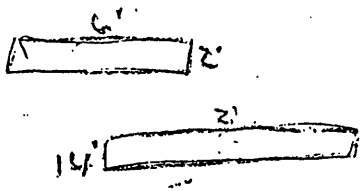
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(20)



WATER #3

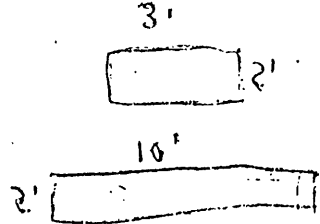
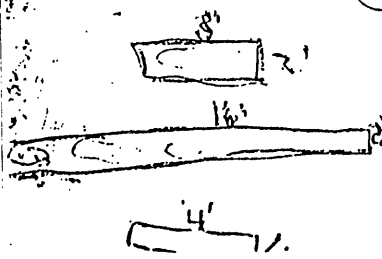
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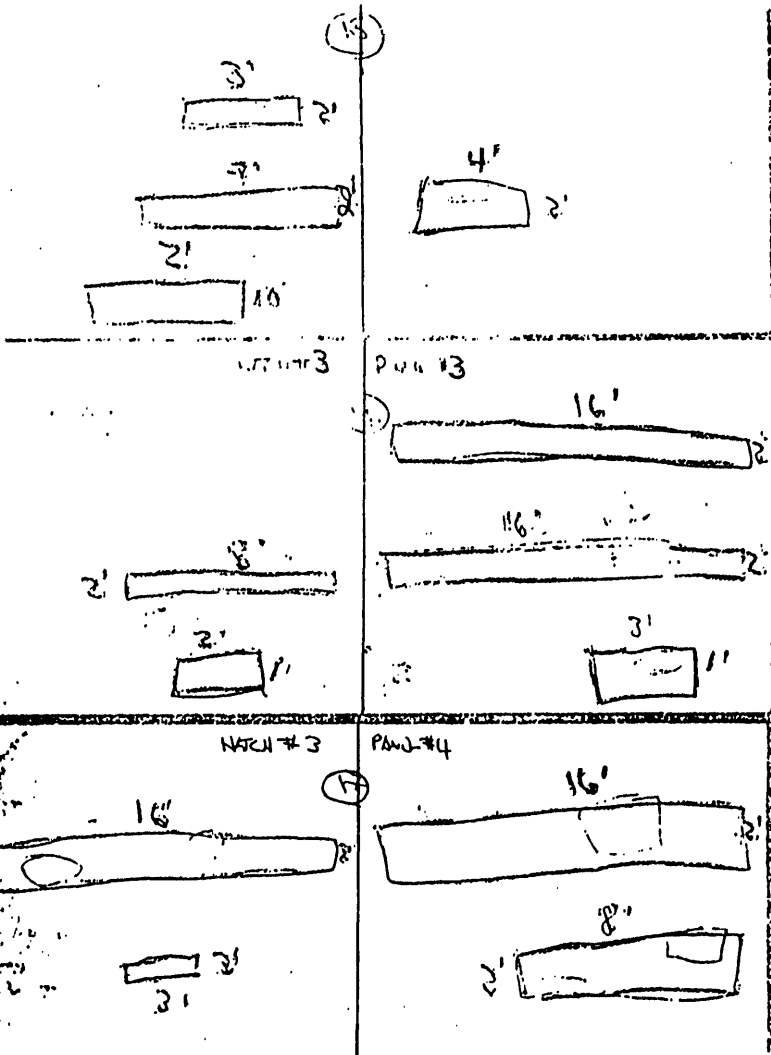


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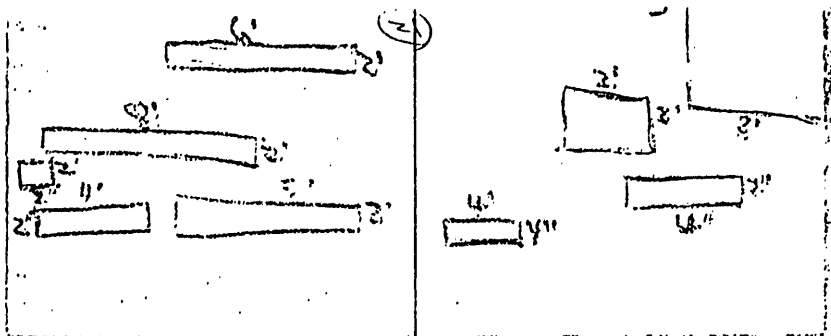
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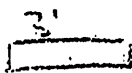






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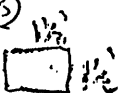
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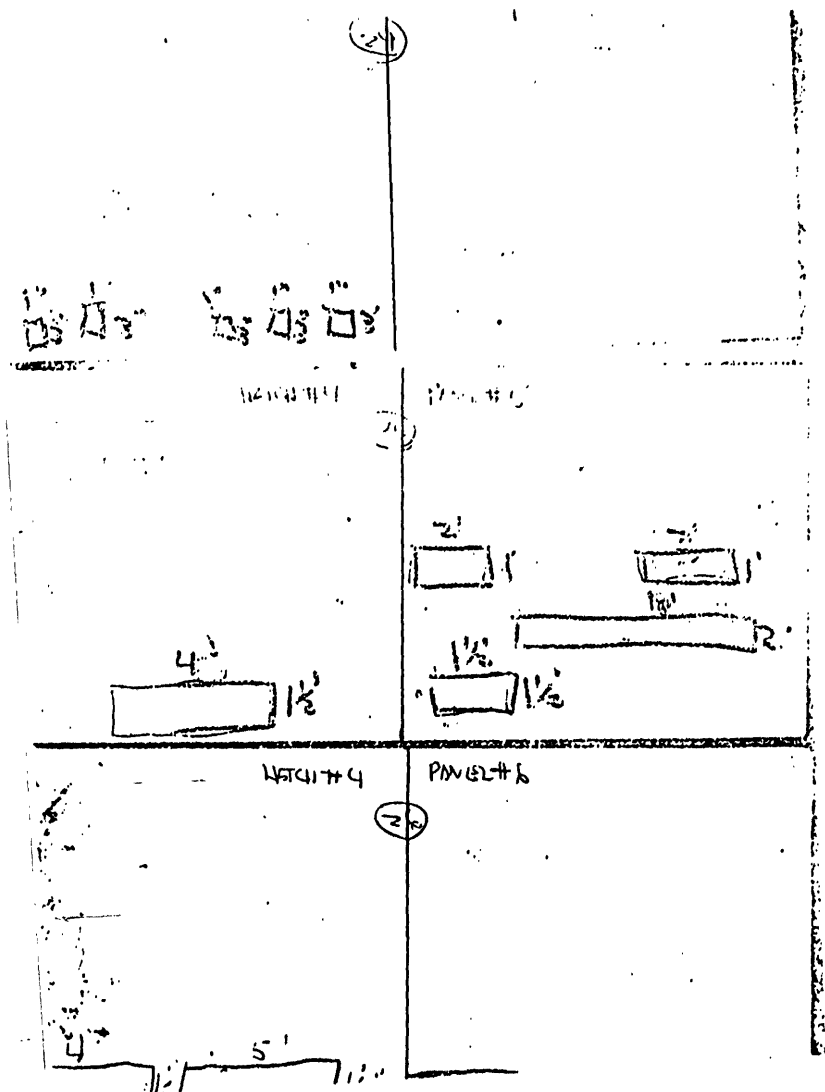


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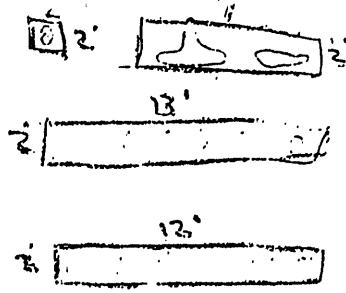
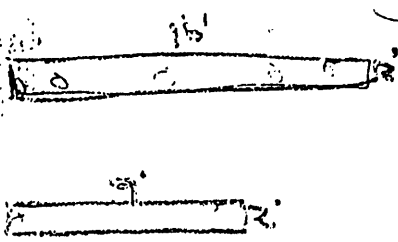
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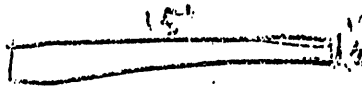
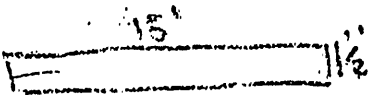
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WFOI # 5

PANO # 1

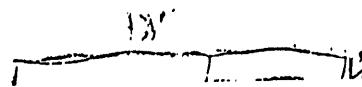
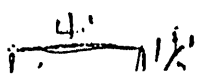
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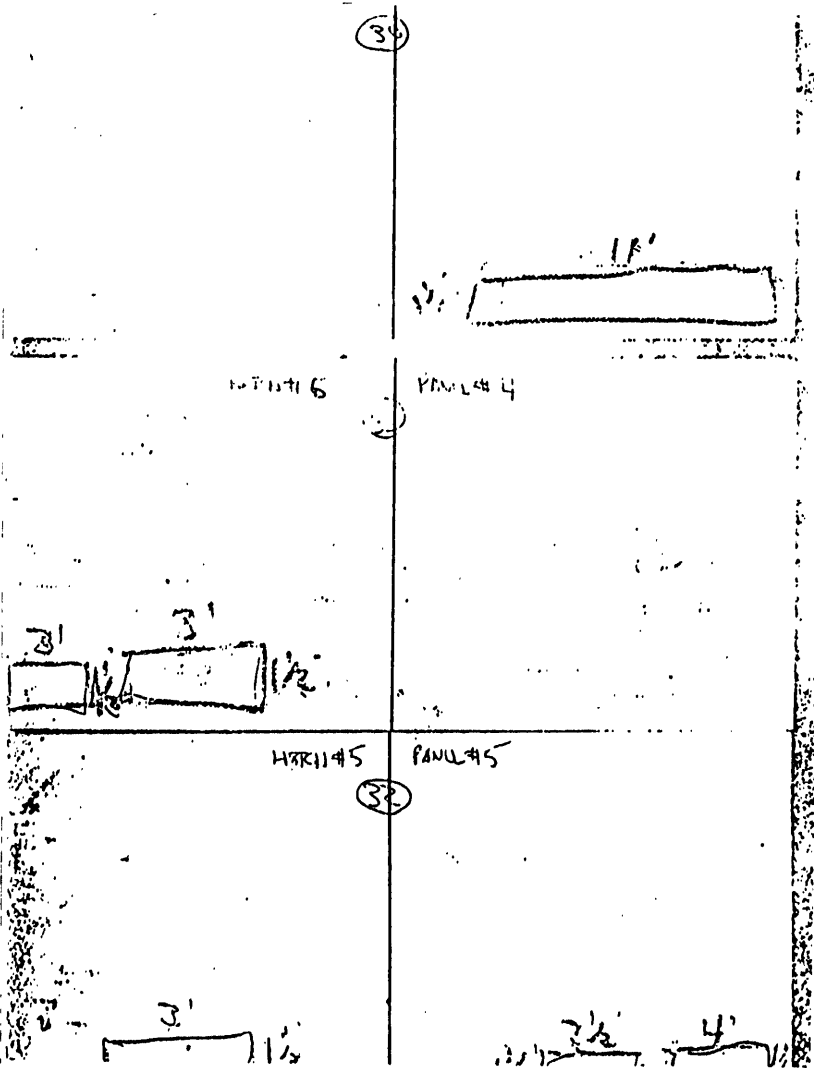


WFOI # 5

PANO # 2

(5)





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# APPENDIX D

## Administration and Technical Committees

### Officers

**Chairman**  
Robert T. Young

**President**  
William N. Johnston

**Vice Presidents**  
Lawrence J. Bates  
Dale A. Kroeger  
John L. Foley  
Kenneth E. Sheehan  
Stanley C. Stiansen

**Secretary**  
John R. Blackeby

**Treasurer**  
N. Herbert Mullem

### Board of Managers

Howard F. Andrews  
James R. Barker  
Captain Leo V. Berger  
Christian F. Beukema  
John R. Blackeby  
George H. Blohm  
John M. Carras  
John W. Clark  
P. R. Cresswell  
Thomas B. Crowley  
A. E. Farr  
John L. Foley  
Lawrence C. Ford  
Ellis B. Gardner, Jr.  
Andrew E. Gibson  
John T. Gilbride  
Basil P. Goulandris  
R. S. Haddow  
G. C. Halstead  
Edward J. Heine  
J. J. Henry  
Ran Hettena  
H. F. Hoffman

R. I. Hoskins  
Barry Hunsaker  
N. W. Johnsen  
William N. Johnston  
Joseph Kahn  
R. S. Kleppe  
Dale A. Kroeger  
Adolph B. Kurz  
Costas M. Lemos  
George P. Livanos  
Glaugo Lolli-Ghetti  
Daniel K. Ludwig  
Joseph T. Lykes, Jr.  
Charles M. Lynch  
M. R. McEvoy  
John J. Mackowsky  
John J. McMullen  
Michael R. Naess  
Edmond J. Moran  
Andrew Neilson  
N. Herbert Mullem  
Stavros S. Niarchos  
Y. K. Pao

Robert Pfeiffer  
M. Lee Rice  
Ward K. Savage, Jr.  
Charles J. L. Schoefer  
Allen E. Schumacher  
Hisashi Shinto  
Spyros S. Skouras  
Leland A. Smith  
Thomas J. Smith  
C. Y. Tung  
Fred R. White, Jr.  
Clyde Wilson  
Robert T. Young

**Commandant,  
U.S. Coast Guard**  
R. Adm. Owen W. Siler

**Assistant Secretary of  
Commerce for  
Maritime Affairs**  
Robert J. Blackwell

Mr. STUDDS. Mr. Kelly, I understand you have a brief statement you would like to make.

#### STATEMENT OF EUGENE KELLY

Mr. KELLY. Yes. I would just like to say publicly there are no braver men than the Coast Guard helicopter pilots that do the search and rescue for these ships in trouble, and that the marine inspection devices that the Coast Guard have now I have seen personally being involved and assigned the duty to talk around the various decks and spaces with the Coast Guard inspectors.

I have seen young people come on board who have had 90 days' training through the Coast Guard, and have basically no idea of their duties, and where they are about to go and inspect, what they are looking for.

It is not the Coast Guard's fault, as Mr. Howell has brought out. It is the funding. There is inadequate funding for the Coast Guard. It is too big a responsibility to inspect these ships, and to lay it on just two or three people in a port.

Some of these Coast Guard inspections last a total of 15 minutes. The officers, people walk on board, walk to the bridge, check the various charts and publications that the vessel has on board, and that is it. Charts and publications do not make a ship safe. You have to inspect things that really count, the lifeboats, survival suits, life rings, and water lights, the condition of each.

I would also like to just take exception to the admiral's statement concerning the officers on board. We have in the United States some of the most highly trained people from the academies, men and women that operate these ships. They can't do their job adequately on old ships. They take jobs where they come up. People graduating from these academies today have no chance to get a job in the merchant marine, and there is so much technology that is incorporated in their training, and yet these people can't use it. Why? It is because they are old ships. The person that has gone to school for 4 years, learned all high-tech equipment for navigation, charge handling, they have no place to put it into effect. They go on these old relics, World War II ships, and it is living in the dark ages.

At times I have been on board old ships that have pulled up beside brand new foreign tankers, foreign cargo ships that have the ultimate in everything, quarters for the crew right up to the bridge. I think the U.S. merchant fleet is in the state it is in because of competitive foreign shipyards. I think shipowners should be able to have incentives to build in American shipyards. That would be a quick boost in the arm of the merchant marine. It is a long-term program.

A ship isn't built overnight, but I think something has to be done to build new ships, not just convert Vic's, and we do old ones so that they can last one more trip. One more trip doesn't make it for the fellows that were lost on the *Marine Electric*.

Shipmates are hard to come by. It is even harder to lose them. I don't know what to say about the 31 men that went down.

Mr. STUDDS. You do far better extemporaneously than most people do with a 50-page statement. We appreciate it. I know that

it is difficult. If it is OK with you, let me start with a couple of questions of Mr. Howell and then I will come back and ask you questions.

I know Mr. Kelly, you have been through this and we have our own record to make. I apologize if you have to answer questions that you have responded to in other settings. I know you understand why we hope we can have some good come of this.

Mr. Howell, you say in your statement that the *Marine Electric* was too old, too deteriorated and totally inadequate to haul cargoes of coal. Do you believe that all tankers or cargo ships of 30 or 35 years of age should be retired?

Mr. HOWELL. If the chairman please, I have never been a part of a shipping company. There could be a 35-year-old ship that was seaworthy, but certainly you have got to have a much more in-depth inspection by trained personnel, metallurgists, naval architects, stress analysts, to permit that vessel to go to sea, and we don't have that type of inspection now.

It is a drive for that profit that seems to be participated in by a lot of people of influence in the shipping business, and I just feel that when they get that old—I am getting older every day; I will be 63 in September, and I check with the doctor more often than I did when I was 23.

I just feel that we have got to keep a good eye on them, and upgrade the inspections. You will see in my testimony Lieutenant Gydish says that with these old vessels the officer in charge of marine inspections should get out of his office and get down on the ships, and this is a member of the Coast Guard. I just didn't feel I was qualified. That is in my testimony. He just admitted that it was too much for him, and he should have some more support personnel on these old vessels.

Mr. STUDDS. This is beginning to sound like the Committee on Aging. It is very discouraging. It just occurred to me, as I asked you that question, we are talking about vessels that are almost as old as some of the Coast Guard's major vessels.

Mr. HOWELL. I would like to see them go by the board, but I am not going to take a stand because of the economics involved.

Mr. STUDDS. How do you account for the fact that our own merchant fleet is both the oldest and statistically, at least, one of the safest maritime fleets in the world?

Mr. HOWELL. It is the oldest. I picked up from this article. The system perpetuates old vessels; to carry American cargoes the vessel has to have been built in a U.S. shipyard, and the price of building a ship in a U.S. shipyard has gotten so high it is not economical to operate.

All you can do is patch up these old vessels in order to make some of the good money that the Government pays to haul Government freight on all American vessels built in the American shipyard, and until we make it, it is going to take subsidization, but we have got to make it economically feasible to build American vessels in American shipyards before we ever have a merchant marine, and I feel that that should be a spoke in our national defense program that we need a viable, efficient, effective merchant marine to have an overall adequate defense.

Mr. STUDDS. Mr. Kelly, what is your own opinion with respect to the cause of the sinking of the *Marine Electric*.

Mr. KELLY. We can all sit here and speculate what made the ship sink. I think we can safely say age—age and the hatch covers. They would not properly seat. They weren't weathertight, as the Coast Guard likes to say. Sea water just penetrated, I believe, the cargo holds. I believe the collision bulkhead up forward gave way when there was too much water pressure on it.

The collision bulkhead, for people that don't know, is the first and last line of defense in the flotation for vessels. If the collision bulkhead goes, your ship is doomed. I believe when the water penetrated up forward, the collision bulkhead let go up forward, the ship had negative stability and rolled.

Mr. STUDDS. Before I turned to Mr. Forsythe, can you elaborate just a little bit on the condition of those hatch covers?

Mr. KELLY. Hatch covers were wasted in numerous spots. I can't see how the hatch covers passed these numerous Coast Guard inspections. The only way I can see that they did that the Coast Guard came aboard during cargo operations when the hatches were open, and in no way can you see the bottom and middle panels of these hatches when they are in the open position.

The only way you can assess the whole situation is when the hatch is closed and secured and a proper hostess put on it. They were wasted holes. You could see completely right down into the cargo hold. In the process of closing a lot of the hatches, they would jump off the tracks. It was common practice to carry a handy billy around, when you closed hatches, which is a block-and-tackle setup, that they could be pulled back onto the tracks.

There were certain hatches that you knew you had to keep this block and tackle hooked up and pressure pulling on the wheels so that the wheels wouldn't jump the track. Again, the diagrams that Mr. Howell has submitted show the actual areas, but my own personal opinion, I used to watch from up on the bridge, when there was turning, these hatches, and there was one heavy man in the crew, an A.B. by the name of Johnson. He was always in on the operation of opening and closing the hatches.

He said some day they will find you down the bottom of the hold. Paper thin in areas, other areas, sheets of scale; four by four square feet of scale would fall off the hatches when they were in the up position. They just weren't seaworthy.

Mr. STUDDS. I appreciate that. Mr. Forsythe.

Mr. FORSYTHE. Thank you, Mr. Chairman.

Thank you very much, Mr. Howell and Mr. Kelly. Reading again from this story in my morning newspaper, The Philadelphia Inquirer, in which it shows the 12 worst U.S. merchant ship disasters in the last 20 years. It points out that 7 out of 12 of those disasters occurred on vessels less than 25 years of age. I don't think age alone is the sole contributor. Age without proper maintenance and proper inspection is I think really the question.

I take nothing away from the criticism of the inspections of the *Marine Electric*. It is obvious both from you, Mr. Howell and you, Mr. Kelly, as you have pointed out, she went to sea in very bad shape, but again from page 11 of this compendium of the Philadelphia Inquirer I would just like to read from this diagram dealing



with the unreported known defects of the *Marine Electric*: "Someone had used a piece of chalk to circle a crack in the deck between the third and fourth hatches. When Third Mate Eugene Kelly found the crack, it was wide enough for him to look through and see the bottom of the cargo hold." As I think you have just mentioned. "The crack was never reported to regulatory agencies or repaired."

It occurs to me, in light of discussions with the admiral, the responsibility of officers and crew, and inspections, that safety of a ship and adequacy of safety inspection has to be a partnership between the Coast Guard, the ABS, the shipowner, and the knowledgeable crew on board. How can we encourage the crew to report known deficiencies to the Coast Guard? Mr. Howell, can you comment on that?

Mr. HOWELL. Is your inquiry to me?

Mr. FORSYTHE. Yes.

Mr. HOWELL. Of course I wasn't aboard there, but the owners would send representatives down, and Mr. Cusick, for example, made up this diagram and turned it over to the owners' representatives for repairs. I think that it is a tradition of seamen that they are not going to be stoolpigeons. It is just ingrained in them just like saluting the American flag is ingrained in most Americans, and they turn it over to the owners and they leave it to the owners as to whether they are going to fix it or communicate it to the Coast Guard.

I have never been in the merchant marine but I have known them for 30 years, and they just think it is unpatriotic. It would be like a stoolpigeon to go squealing to the Coast Guard. They go to the owners and they rely upon the owners to report it. Now, that doesn't make sense to a Congressman, it doesn't make sense to a lawyer and a former legislator, but that is the tradition of the sea. Mr. Kelly can probably comment.

Mr. FORSYTHE. We are dealing with something that is a matter of law insofar as officers are concerned, apparently, to report directly to the Coast Guard, not the owners, and apparently there has been a significant amount of that kind of reporting. I wonder if you, Mr. Kelly, were aware of that as being a matter of law?

Mr. KELLY. Yes, sir. I would just like to say that when a person enters one of these academies or joins the merchant marine, joins the service, you are taught a chain of command. As third officer on board the ship, I was referred to as the junior officer. Any deficiencies I found not only in the *Marine Electric* but on other ships in my crew area, I reported the findings to the chief officer. The chief officer is the captain's delegate on deck. The chief officer, in return, reports to the captain. The captain uses his discretion whether he reports that to the Coast Guard or to the shipping company owners.

I saw a perfect example of this on the *Marine Electric*; on one of our trips to Somerset we discovered a hole punctured in the port side of the hull, very high on the deck. It looked as if a bulldozer that was used in the discharge of the coal had hit the side of the ship when it was being brought on board.

I happened to find it the following day as we were loading ballast. I saw water coming out. I reported it to the chief officer, Mr.

Cusick, who went and got the captain, Captain Farnam, brought him down on the dock and showed him. From there the captain made a phone call. Where that phone call went Captain Farnam knows. Whether it was calling the Coast Guard to report any breach of the watertight integrity of the ship or whether it was to the shipowner itself requesting permission for repair.

Repairs were made on the ship, temporary repairs were made on the ship for that hole, and we sailed. To the best of my ability I had reported the deficiency that I found. I reported it to my superior officer, who in turn reported it to his.

The chain of command is inbred in all officers. Eventually you will be the top in the chain of command, but you don't get there by overnight success. You get there—it is a long way to get to be a captain. The company gives him a lot of responsibility. They give every one of the officers a lot of responsibility, but for me to be on deck and to be doing my duties and to be running down and calling the Coast Guard very 20 minutes because I found something different is impractical. I report it to my superiors, and, so far as I know, they report it on up.

Mr. FORSYTHE. I would hope that you wouldn't be involved in having to report to your superiors every 20 minutes.

Mr. KELLY. Well, in separate cases you have had to do something.

Mr. FORSYTHE. How long were you on board the *Marine Electric*?

Mr. KELLY. I was only on there for 23 days before the sinking.

Mr. FORSYTHE. Twenty-three days. So you would not have had an opportunity really to have known the history of the situation insofar as the ship is concerned?

Mr. KELLY. Not the history, but I knew the present deficiencies that were on there. I make it a habit of my own to walk around the ship and get familiar with different things. It is what I have been taught. It is commonsense, a lot of it. And any officer that goes on board an American ship should do the same, and I believe they do.

Again, I would say that we have some of the world's most highly trained professionals as merchant seamen today. It isn't like the old days where either you go to sea or you go to jail. Today you have family men that are out there, and dedicated professionals.

Mr. FORSYTHE. I think there you are very correct. And as you yourself have said, it wasn't the men in the Coast Guard per se as an institution. Much more of the Coast Guard's apparent problem was the fact that they are starving to death in terms of funding. Mr. Howell, you said that, as much as we might want to do so on this committee, we won't be able to do anything. I hope you are not right. Thank you. Thank you, Mr. Chairman.

Mr. STUDDS. The gentleman from Delaware.

Mr. CARPER. Thank you, Mr. Chairman.

I would like to welcome both Mr. Howell and Mr. Kelly here today. I would like to follow up on Mr. Forsythe's questions. I thought it was a good line of questioning.

Mr. Kelly, you talked about the hatchcovers. You apparently were aware of their condition. What action did you take as the third officer of the ship to bring that to the attention of the Coast Guard inspectors?

Mr. KELLY. The Coast Guard inspectors, in the 23 days that I was on there I saw one Coast Guard inspection team come on board, and when they came on board they went directly to the bridge, and they checked the publications, publications and nautical charts which are supposedly kept up to date by the second mate. No deficiencies were found, and they were gone within 15 minutes. If they had come on deck and started to walk around, I wouldn't have had to bring the deficiencies to their notice. They would have been able to spot them, hopefully.

Mr. CARPER. So in essence, you took no action as the third officer of the ship to bring those deficiencies that you were aware of to the attention of the Coast Guard inspectors?

Mr. KELLY. Not to the inspectors themselves. I brought it to my superior's attention.

Mr. CARPER. Did you ever query or question the chief officer or the commanding officer of the ship as to why they didn't bring that kind of deficiency to the attention of the inspectors?

Mr. KELLY. I am sure that it had been brought to the Coast Guard's attention, maybe not in Providence or in Somerset, but in other ports. Again, the chief officer that was on board the *Marine Electric*, Mr. Cusick, was a very knowledgeable man, and just a month prior to this accident he had drawn up all the diagrams for the company's owners, for the operators rather, and whether they took any action from there, it is evident they didn't, whether they notified the Coast Guard I don't know, but Mr. Cusick, I am sure, I can't positively say, but I am sure he brought it to their attention. He was a professional; he still is a professional sailor; I have no doubt that he brought it to his superior's attention, and people in higher-up positions to do something about it.

Mr. CARPER. In Mr. Howell's testimony he talked about a reluctance on the part of crew members to become stoolpigeons blowing the whistle, if you will, on vessels that are unsafe. Do sinkings like the *Marine Electric* or the *Poet*, which are fairly fresh on our mind, does that change the thinking at all on the part of reluctant crew members?

Mr. KELLY. Well, I don't know if it is reluctance to call the Coast Guard. Again, a lot of these sailors and the crew, when you refer to the crew—I am referring to unlicensed personnel, having gone to sea for 20 and 25 years, are ready for retirement, and maybe we all took it for granted that nothing would happen on the coast.

We are all on board the *Electric*. We are all there every day. People would point out deficiencies to me as I made my rounds. If they found something wrong they would point it out to me again, like I say, and I would report it to Mr. Cusick. The chain of command, it is a military system on a merchant marine ship. You just don't have to abide by military rules. Chain of command, officers orders, the whole deal is the same as in the military, and a private does not go into the general's office and complain that something is wrong. He reports, again, to the chain of command.

It is so important on a ship. You have to know who is in charge. There is one person in charge, and that is the master. When information reaches the master, who knows where it goes from there. I am sure there is a lot of privileged information between company and the master of the vessel that nobody else on board knows

about, so again when it reaches his office, who knows where it goes?

Mr. CARPER. In the future, as a third office or the chief officer of a ship, are you going to be as willing to simply leave it up to the skipper of the ship and the owners of the ship to correct deficiencies? Say you see something that is wrong, dead wrong, and something that poses a real hazard to the safety of the ship and its crew. You report that to your superior. Are you going to be as willing in the future to just drop it at that point?

Mr. KELLY. I will reply by saying I have sailed as chief officer aboard vessels. Safety is not to be taken lightly, as evidenced by this *Marine Electric* case. No, I won't be any less—I will be a little loud, maybe. I will be right on somebody's tail to get it done, because I will have the experience of having had a ship go out from under me.

Mr. CARPER. How do we instill that same kind of feeling in other people who have never had a ship go out from under them, but who nonetheless sail on ships that are just as unseaworthy as the *Electric*?

Mr. KELLY. I think it comes right down to the economics of it. The merchant marine is in such bad shape today that the union that I belong to is no longer accepting members. There is not any jobs for the membership. I haven't been able to find work since the *Marine Electric*. Economically, again, you start closing down all these ships, and there are no jobs for anybody. Even organized labor, as the admiral has said, helps in this situation, but organized labor, when they go after the shipowners, they are just cutting out their jobs also. They are cutting out membership jobs. It is a difficult position, but I know which end of the scale I will be on.

Mr. CARPER. One last question. Earlier I had raised a question of antiexposure suits. Will you take a minute and talk to us about the kind of antiexposure suits that there were aboard the *Electric*; how extensively were they used? Were the crew members well trained to use them? What kind of thoughts do you have on requiring exposure suits to be used in the future?

Mr. KELLY. Well, I think exposure suits, it is almost like flogging a dead horse now. I feel as if exposure suits will be on all merchant vessels in the future. We had none on the *Electric*. We had just standard life jackets, no cold-weather survival suits at all. I have been on vessels that I have worked in the North Atlantic in the oil supply industry, and it was a requirement to wear survival suits whenever you went out on deck. I think survival suits would have saved numerous lives, maybe 31.

So far as lifesaving equipment and so forth, I would just like to say that lifeboats today on ships I believe are antiquated. It is my understanding that an open lifeboat, the only reason it is on a ship today is to facilitate a rescue at sea. I feel as if all ships should be fitted with self-contained lifeboats completely enclosed, where the crew can climb inside, lock themselves in, and throw a lever and the lifeboat is launched.

On the *Marine Electric* we had devices that we call sheet draw davits, and in the best conditions, perfect weather, took 2 or 3 minutes to get these lifeboats over the side with nobody in it. And in

the conditions we faced that night, it was impossible to get any lifeboats over.

The grandfather clause that allows these old ships to continue with the existing equipment until such time as they either break or just breakdown completely should be done away with. Ships with these type of davits should be completely changed. Gravity davits that are on a lot of the newer ships are fine, but, again, you get back into the closed lifeboats. I think closed lifeboats and gravity davits could have saved everybody on that ship. I think that is the biggest thing.

Survival suits, they would have been fine for the people in the water, but your biggest concern is not going into the water. Lifeboats, automatic inflating rafts that we had on board the *Marine Electric* did not inflate. One of the survivors, Paul Dewey, the A.B., had to manually inflate this while he was in the water in 20-foot seas. That shouldn't have happened. He should have had an inflatable liferaft right there so that he could climb in.

Also the ladder on board the liferaft, once he got it inflated, was not adequate. He had six people holding on to that liferaft that couldn't climb inside because they had lost the use of their arms or their legs through the cold water, and the ladder just was an old cargo net that hung very tight to the side, and they couldn't get a hand-hold.

A lot of the safety equipment today on board ships is old; a lot of it hasn't been replaced. It still works, and I guess it is the company's opinion if it works leave it alone, don't replace it.

Mr. CARPER. A key component of safety equipment is communications equipment. Are there any comments you would like to share with the committee on the adequacy of communications, the ability of vessels to communicate, particularly in hazardous conditions, either in coastal waters or at sea?

Mr. KELLY. I think the communications system on most ships today are high-tech equipment. We didn't have any problem getting off any radio communications with the Coast Guard. We were within radio VHF range. Ships that have an emergency out in the middle of the ocean are equipped nowadays with single-voice band radios which should be able to reach shoreside installations.

Also emergency channels. There are two emergencies, 500 and 2182 kilocycles, that can be set automatically by a ship when he rings his emergency radio direction finding. That is popped into the water and the antenna is exposed. It sets off an alarm on other ships in the area. I don't believe communications equipment was a deciding factor in this incident.

Mr. CARPER. Again, thank you both for your appearance and testimony today.

I yield back the balance of my time.

Mr. STUDDS. Thank you.

Let me note the sketches of the deficiencies in the hatch covers done by Mr. Cusick are an addition or an attachment to the testimony of Mr. Howell, and they will appear in the record.

Let me finally, Mr. Kelly, note that we know of your two recommendations, one of which, as you pointed out, is very much underway with respect to requiring survival suits for crew members on

all vessels. We will follow that up and see to it that that is the case.

You have also recommended that sheath screw-type davits be replaced by gravity davits on all U.S. vessels, regardless of age, and we will follow that up as promptly and as forcefully as we can.

Based on the experience that you have had, are there other recommendations, before we end this part of the testimony, that you would like to leave with this committee?

Mr. KELLY. I would just like to say that the American merchant marine is in such a state today that it is going to take a few years to get us to the No. 1 position again, but it has to be done. Even in the aspect of national security or the defense of the country, if there was any type of a war, the American merchant marine wouldn't be able to keep up with the Navy.

In a convoy, you can't keep a 23-foot ship up with a 28-knot carrier. It is impossible. And most of the support, merchant support vessels today are of the older type, which is 90 percent of our fleet. It is just logistically impossible to keep up that speed, or the distance that they have to cover. I just recommend new ships for the American merchant fleet built in America.

Mr. STUDDS. Gentlemen, I want to thank you for your testimony, both of you. Mr. Kelly, I know this is a difficult thing for you. I know you have had to go through it before. I just hope that at some point in the future you can look back and think that this was worth the very considerable effort that I know it comprises for you. I thank you very much. The subcommittee will stand recessed until 2 o'clock.

[Whereupon, at 12:30 p.m., the subcommittee recessed to 2:00 p.m. of the same day.]

#### AFTERNOON SESSION

Mr. STUDDS. The Subcommittee will resume.

Our first witnesses are Mr. Ken Sheehan, vice president/chief counsel, American Bureau of Shipping; and Mr. John Borum, vice president of the ABS. Gentlemen, I understand between you, you have a statement. You may deliver it as you wish.

#### STATEMENT OF JOHN F. BORUM, VICE PRESIDENT, AMERICAN BUREAU OF SHIPPING, ACCOMPANIED BY KEN SHEEHAN, VICE PRESIDENT/CHIEF COUNSEL

Mr. BORUM. Thank you, Mr. Chairman. I am John F. Borum, vice president of the American Bureau of Shipping and with me is Mr. Kenneth E. Sheehan, our vice president and counsel. We are pleased to accept your invitation to testify before the subcommittee regarding those matters raised in your letter of June 28, 1983.

To the extent that responsibility for vessel inspection and other duties related to marine safety have been delegated to American Bureau of Shipping by statute or by memorandum of understanding with the U.S. Coast Guard, we can assure the committee that the regulations and standards have been diligently applied by well-trained, competent surveyors.

To the extent that our surveyors interface with the inspectors of the U.S. Coast Guard, we have similarly observed that Coast Guard

inspections are carried out by well-trained personnel exercising a high degree of diligence.

Our comments relating to the training and supervision of inspectors must, of course, be limited to the training and supervision of our own field and technical surveyors in connection with classification and the inspection work delegated to us by statute or the Coast Guard. Prior to a surveyor being assigned to survey work, whether it be classification survey or regulatory inspection, he or she must evidence through a combination of education, prior experience and training courses together with on-the-job training, qualifications as surveyors and familiarity with ABS rules, guides and circulars or instruction as well as the requirements of any regulatory inspection work.

ABS employs 309 exclusive technical surveyors and 634 exclusive field surveyors who are located in 142 exclusive offices around the world. In addition, ABS has 102 nonexclusive offices. ABS is represented in a total of 88 countries.

In the United States, ABS has 179 field surveyors and 222 technical surveyors stationed in 43 locations. Furthermore, at the headquarters office in New York, there are 56 ocean engineering and research engineers, 47 specialists in computer science, 22 specialists in materials and manufacturing in addition to 203 exclusive technical and field surveyors.

Of the foregoing number of surveyors, 164 have naval architecture degrees and 362 have degrees in other engineering disciplines.

ABS has, through courses as listed below, offered training and refresher training to 106 of its surveyors in 1983. This is consistent with the averages that have been held to over the past years and does not include on-the-job training in report writing and familiarization with ABS rules which is offered to all newly hired surveyors.

ABS' in-house training courses include the following subjects: American Welding Society course; nondestructive testing course; condition monitoring course; inclining course; professional engineering; underwater survey course; automation course; diesel engine course; quality control, pressure vessel; metallurgy course; welding course; residual stress measurements techniques; design of field offshore platforms; practical analysis of shipboard vibration; and international diving course.

Naturally, all of these courses are not offered to all the surveyors but within the specialties where they will be working.

We note that the subcommittee wishes to focus particular attention to casualties involving the *Marine Electric*, the *Ocean Ranger* and the *Poet*.

With respect to the *Poet*, we have reviewed the amended joint findings of the U.S. Coast Guard and the National Transportation Safety Board which suggests that the loss may have occurred as a result of an ingress of water or improper loading of the ship. Because of the unfortunate disappearance of the *Poet* with no survivors or trace of the vessel, any finding would, of course, be conjecture. We wish to clarify for the record, however, that ABS records indicate no outstanding or overdue surveys for the vessel and copies of our pertinent records were submitted to the hearing officers.

With respect to the *Ocean Ranger*, we note that the Coast Guard is conducting a board of investigation, as has the National Transportation Safety Board. There are also ongoing proceedings before the Royal Commission on the *Ocean Ranger* marine disaster in Canada. Final reports are not yet available and it would appear premature to make any conclusions regarding the casualty.

We must also point out that we are a party defendant in civil litigation filed in Louisiana and have been named in additional civil litigation in Canada. Our comments are therefore, under advice from counsel, limited to avoid unnecessary jeopardy in such civil litigation. We wish to state for the record, however, that the *Ocean Ranger* was in class with this bureau at the time of the casualty and there were no overdue surveys or outstanding recommendations.

Similarly, the loss of the *Marine Electric* is the subject of a Coast Guard NSTS Board of Investigation currently in progress. Until we have had an opportunity to review the conclusions in the Coast Guard report which will eventually be released, we are not in a position to comment on any possible cause. We have reviewed our files and would confirm for the record that the vessel was in class with no overdue surveys at the time of the casualty.

As with the other casualties previously mentioned, we are cooperating to the fullest extent possible in providing records and information to the Coast Guard Board of Investigation.

Although we have not had an opportunity to review the terms of H.R. 3486, we understand that a requirement for notification of statutory surveys is placed on the vessel owner. This is very much in keeping with the traditional requirements of classification societies which obligate the owner to notify the classification society of the availability of a vessel for survey when that survey becomes due.

The conditions for surveys after construction are set out in the American Bureau for Shipping Rules for Building and Classing Steel Vessels in section 1.17 requiring that the owner notify the ABS surveyors when a classed vessel is available for periodic survey. Additional requirements for surveys in the event of damage to hull, machinery or equipment are also considered to be the owner's burden and must be presented for survey at the first opportunity.

To the extent that the owner does not follow the requirements for periodical, damage and other surveys, the vessel's class may be suspended. We can and do supply survey status to owners on a periodic basis, if requested. Also status is published in the "ABS Record" annually and revised by monthly supplements. This includes not only classification surveys but also statutory surveys which the bureau is empowered to administer.

We trust that these brief comments are responsive to your inquiry. I will be pleased to answer any questions you might have.

Mr. Sheehan would like to add a few comments of his own at this time.



## STATEMENT OF KEN SHEEHAN

Mr. SHEEHAN. Mr. Chairman, we feel that some response is required to the charges of conflict of interest raised by Mr. Howell in his statement. It is unfortunate that Mr. Howell's knowledge of the marine industry is limited in that he failed to recognize that the ABS Board of Managers in addition to the vessel owners he mentioned, consists of persons from other sectors of the marine industry, including marine underwriters, shipbuilders, naval architects, and two representatives appointed by the U.S. Government pursuant to statute. Also the other committees of ABS, through which our rules are developed, contain a similar cross-section of interest from the marine industry, including lawyers.

It would be unfair in the extreme for me not to mention that our rules, and those functions assigned to us by statute or by agreement with the Coast Guard, are applied by a team of field surveyors, most of whom have sailed and are thus aware of the need for safety.

Whether they are traveling by launch from Dubai to a ship at 4 o'clock in the morning or being dropped by helicopter onto the deck of a burning U.S.-flag vessel off the coast of South Africa, these surveyors are dedicated impartial, and often as courageous as Mr. Howell's clients. Perhaps Mr. Howell's statement is colored by the fact that the amount of his fee may well be contingent upon the amounts which he can collect on behalf of his clients.

I thank you.

Mr. STUDDS. I am beginning to regret we didn't have a panel of witnesses. Gentlemen, from 1980 until the time of the sinking, what was the ABS inspection history with respect to the *Marine Electric*?

Mr. BORUM. I don't have the details of the inspection record with me. We will be pleased to provide it. It has been provided to both the Coast Guard and the National Transportation Safety Board.

Mr. STUDDS. We would appreciate your doing that.

[The following was received for the record:]

# *American Bureau of Shipping*

*Sixty-five Broadway*

*New York, N. Y. 10006*

27 July 1983

*Refer to* JFB/def

*File Ref*

The Honorable Walter B. Jones  
Subcommittee on Coast Guard and Navigation  
Committee on Merchant Marine and Fisheries  
H2-545, Annex 2  
Washington, D.C. 20515

Dear Congressman,

I wish to take this opportunity to thank, on behalf of American Bureau of Shipping, for the opportunity to offer testimony last week, 19 July 1983, before your subcommittee regarding the American Bureau of Shipping and U.S. Coast Guard.

As requested at that time, I have prepared a list of surveys for the vessel "MARINE ELECTRIC" ABS I.D. 4407476 which lists the surveys carried out inclusive from the period 15 June 1976 to the Bureau last attendance aboard the vessel 16 November 1982. For reference purposes we also are taking the liberty of enclosing copies of the reports issued upon the completion of each survey.

In view of the several questions relative to the timing of surveys I am also attaching a progressive list of surveys after construction which commences with the first Annual Survey after build. It should be noted that these are the surveys required for Classification and do not reflect statutory survey requirements such as the Annual Loadline Inspections and the Safety Construction Survey.

In giving my testimony before the Committee I think of those as a set of survey dates which in fact do take cognizance of some increase in survey incidence as a ship grows older in Intermediate Surveys are introduced, as indicated, as a consequence of experience serves the need for a more frequent examination and also would note that after a certain period of years

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AMERICAN BUREAU OF SHIPPING

PAGE <sup>1</sup>Two

REFER TO: JFB/def

TO The Honorable Walter B. Jones

DATE 7/27/83 FILE REF:

it is Bureau's practice to issue Loadline Certificates for a four (4) year period only thus ensuring that full Year of Grace Survey is carried out prior to the ship passing to the normal five (5) year Loadline period.

Very truly yours,

AMERICAN BUREAU OF SHIPPING

  
.....  
JOHN F. BORUM  
Vice President

Encls.

## AMERICAN BUREAU OF SHIPPING

'MARINE ELECTRIC' ABS ID 4407476

Record of Surveys subsequent to 1 June 1979.

<u>Report Date</u>	<u>Survey Location</u>	<u>Report No.</u>	<u>Surveys</u>
<u>1979</u>			
15 June	New Orleans	NO55881	Annual Classification - Hull and Machinery, Annual Loadline Inspection.
		NO55882	Report of Annual Loadline Inspection.
22 June	New Orleans	NO55903	Port Boiler - Report on Renewal of Generating and Screen Tubes.
19 July	Haifa	HAI79233	General examination following vessel's touching ground.
		HAI9223X	Statement of Fact relative to Report No. HAI79223.
28 October	Ft. Lauderdale	FL746	Main Propulsion Motor Repairs.
<u>1980</u>			
17 January	Haifa	HAI802305	Heavy Weather Damage, Hull Damage, Starboard Forced Draft Fan Damage.
29 February	Jacksonville	JS4555	Drydocking, Tailshaft, Intermediate, Special Periodical Survey of Machinery, Port and Starboard Boilers.
		JS4556	Hull (and Heavy Weather) Damage Repairs.
		JS4557	Main Engine (Turbine) Damage and Repairs.
15 April	Ashdod	HAI802337	Wasted Shell Plating - 2nd Deck of Retained Stern Section.
5 July	Savannah	SH11824	Annual Classification - Hull and Machinery, Annual Loadline Inspection.
		SH11825	Report of Annual Loadline Inspection
6 September	Galveston	G33722	Port Boiler Damage

<u>Report Date</u>	<u>Survey Location</u>	<u>Report No.</u>	<u>Surveys</u>
<u>1981</u>			
22 February	Jacksonville	JS5016	Drydocking, Annual Classification - Hull and Machinery, Annual Loadline Inspection, Special Periodical Survey of Hull No. 8, Special Periodical Survey of Machinery, Special Periodical Survey of Electrical Equipment, Cargo Ship Safety Construction.
		JS5017	Report of Annual Loadline Inspection.
		JS5018	Port Boiler and Machinery (No. 2 Auxiliary Generator Turbine) Damage and Repair.
2 July	Boston	B29098	Grounding
9 August	Houston	HS575	No. 1 Turbo Generator Repair (Coupling).
<u>1982</u>			
24 February	Baltimore	BA6036	Annual Classification - Hull and Machinery, Annual Loadline Inspection.
		BA6037	Report of Annual Loadline Inspection.
16 March	Boston	B29281	Port and Starboard Boiler.
22 May	Newport News	NN5232	No. 2 Auxiliary Generator Repairs.
24 May	Boston	B29340	No. 2 Ships Service (Auxiliary) Turbo Generator Damage and Repairs.
16 November	Boston	B29473	Machinery Damage and Repairs (No. 2 Turbo-Generator (Auxiliary/ Ships Service) - Flexible Coupling.

(COMPLETE TESTIMONY RETAINED IN SUBCOMMITTEE'S FILES)

Mr. STUDDS. During the period from 1980 until the sinking, did any ABS inspection report cite deficiencies in the condition of the hatch covers of the *Marine Electric*?

Mr. BORUM. To the best of my knowledge, there were no deficiencies cited from 1980 onward.

Mr. STUDDS. Just for the record, did the ABS during that period ever order or witness repairs in the hatch covers?

Mr. BORUM. My recollection is that there were repairs carried out. I do not believe they were ordered by the ABS surveyor.

Mr. STUDDS. The ABS conducted a drydock examination of the *Marine Electric* in the Jacksonville shipyard in February 1981. Let me read briefly from the transcript of the Marine Board hearing:

*Question.* As far as you were concerned, when the vessel left were the hatch covers tight, in your opinion?

*Answer.* I signed the book just for service and I must have thought they were tight and the four people that worked with me on this particular vessel agreed.

*Question.* Would it surprise you to know that a month after the owners had to call in McGregor, the builder of the hatch, at a cost of I think \$60,000 to \$70,000 to get the hatches so that they would line up and they could put tape over them to make them watertight?

*Answer.* Captain, I did not realize that.

The ABS surveyor, the person who is being questioned and is answering here, then said that he never checked to see whether the repairs that were being made in the hatch covers had in fact been made, nor did he ever test the hatch covers. Then there was the following exchange:

*Question.* You don't know whether those hatches, the five hatches were watertight, weathertight or whether the hatches fit or were distorted or if there was anything wrong with them or not when the vessel left, do you?

The ABS surveyor answered, "Well, as I mentioned, it would be kind of foolish to send a ship off without proper hatches."

*Question.* You would probably find it easier to answer the question and the question only. You, of your own knowledge, when the vessel left, when you signed off on February 21 or 22 of 1981, do not know whether those five hatches were weatherproof, watertight, or in what condition they were, do you?

*Answer.* No, sir.

Now, following that, is it not true that the ABS approved the *Marine Electric* for service at the February 19, 1981, drydock without ever even seeing the hatch covers, since the hatch covers were not on the ship at the time of the inspection?

Mr. BORUM. Our surveyor's report of his annual load line inspection indicates that he was satisfied with the condition of the closing appliances on the hatches as well as the other weathertight closing appliances throughout the vessel. I have to assume that he must have seen them to be satisfied with them.

Mr. STUDDS. Another marine surveyor for ABS testified that he had never in his 30 years of inspecting heard or seen a case in which the hatch covers came out of a shipyard with the number of doublers and patches that was the case on the *Marine Electric*. Would, in your opinion, it be fair for us to conclude that at least with respect to this ship, at least with respect to the hatch covers, that the American Bureau of Shipping did not do the job it is expected to do by the Coast Guard and by the public?

Mr. BORUM. I think that is an unfair conclusion. I believe that properly fitted insert plates and properly fitted doublers are acceptable repairs.

Mr. STUDDS. I am a little uncertain when I try to put that together with your response to earlier questions. In saying what you just did, do you mean to contend that the ABS inspector competently examined and inspected the hatch covers?

Mr. BORUM. I took your question to mean would we accept doublers. Would a man who saw doublers, would he accept the doublers, and the repairs, by insert plating and patching in small areas, and I think my answer to that was that, yes, this is possible, if we accept welding as a means of repair, it is possible.

Mr. STUDDS. My question was phrased more generally than that. I will repeat it. I am not being argumentative. The question was, would it be fair for us to conclude that at least with respect to this ship, at least with respect to the hatch covers, that the ABS did not do the job it is expected to do by the Coast Guard and by the public?

Mr. BORUM. From the information you are giving me, that would be a fair conclusion.

Mr. STUDDS. The gentleman from New Jersey.

Mr. FORSYTHE. Thank you, Mr. Chairman.

I appreciate your testimony, particularly your reply to Mr. Howell's charge of conflict of interest, because I was going to ask the question if you didn't. Could you tell us what the nature of the claim against ABS is in the *Ocean Ranger* lawsuit?

Mr. SHEEHAN. In the *Ocean Ranger* litigation, we have been named, I believe, by six death claimants in litigation in New Orleans. There is a separate lawsuit that was commenced by Ocean Drilling and Exploration Co. against ourselves as codefendants with Mitsubishi Heavy Industries, and I believe some other defendants, alleging, I believe, negligence in formulating our rules or, in the alternative, negligence in applying our rules. We feel that we have meritorious defenses.

Mr. FORSYTHE. I don't want you to try the case here. How frequently has the ABS been sued in such similar cases?

Mr. SHEEHAN. With growing regularity. Our first lawsuit started out about 6 years. We get about three or four a year now out of marine disasters.

Mr. FORSYTHE. What is your win record? Has any court assessed damage?

Mr. SHEEHAN. Our litigation budget is growing, let me put it that way.

Mr. FORSYTHE. I think that the overall record of the accidents in our U.S. merchant marine, despite its age, is rather remarkable. The *Marine Electric* apparently was a combination of lapses all together in one, in terms of things that might have been done differently, that might have been done better.

What further legislative action would you think is important?

Mr. BORUM. I am not certain that there is any further legislative action necessary. I think the majority of these problems can be taken care of by regulation. That is my opinion.

Mr. SHEEHAN. Certainly with the *Marine Electric*, until a report is published after they have had these additional hearings, it is very difficult to make any comments in that regard.

Mr. FORSYTHE. I can appreciate that position, although I think undoubtedly the final result of that review will be published before any legislation is enacted, because we are going to continue these hearings. Hopefully before our series is done, we will be talking about the hearing record, which will be very helpful, I am sure.

I think it is appropriate that we do start now and try to be prepared to move with some dispatch, if in fact there are legislative remedies that are important to accomplish. One of the things that disturbs me greatly was the situation where apparently a tradition in the old business of not being squealers maybe dampened the proper channeling of serious information.

It appears the operators or owners aren't always the best ones to make sure that they do financially expensive safety-related things if they are having a hard time getting enough money to do something else. I think some of that was true.

I think I admire the high regard that the Coast Guard holds the ABS in. I certainly hope that that can continue, because in the budget area certainly we aren't able to do what we should do for the Coast Guard to enable them to do what they should be doing, and what you are doing for the Coast Guard in your area.

I think we are going to be watching more closely in this oversight responsibility so that we feel more comfortable with the whole process, in doing everything that is possible.

I thank you, Mr. Chairman. I thank both the witnesses.

Mr. STUDDS. Gentlemen, I want to read you a quotation from the *Philadelphia Inquirer* that we read earlier this morning to the Coast Guard and ask you some of the same questions that we asked the Coast Guard at that time, if I may.

The article, as you will recall, stated in part:

Billions of dollars in government maritime subsidies intended to promote the construction of a modern American merchant fleet have perversely done the opposite, created a fleet of ancient and dangerous U.S. ships that have been taking American seamen to their deaths with alarming regularity. Many of the ships in the U.S. fleet are so unseaworthy they could not begin to pass U.S. Coast Guard safety regulations. They go to sea anyway. They do so with the complicity of industry, labor, Congress and the Coast Guard, itself.

May I ask first your general reaction to that statement.

Mr. BORUM. I have two reactions. The use of the term "unseaworthy" is not a very helpful word, because I know of court proceedings that have held that when a cook spills chicken soup in the mess room and someone slips on it, the vessel in fact was unseaworthy. We like to consider fitness to proceed, fitness to go to sea in the condition it is supposed to be, as what we are talking about in all cases.

I firmly believe the same as Admiral Lusk stated, that the majority of the vessels that are out there that we have finished surveying are fit to go to sea.

Mr. STUDDS. I read, as I am sure you did, those articles in the "Inquirer," and I guess the question boils down simply to the essence of the context of the series, which is do we or do we not have a bunch of basket cases sailing the high seas?



Mr. BORUM. We have some older ships. We have too many older ships. The condition it is true, it takes a great deal more work, a great deal more effort and a great deal more survey to be sure that an older ship is going to sea proper.

Mr. STUDDS. Do I understand you correctly, I want to make sure I am not putting words in your mouth. You responded affirmatively to the question, do we have basket cases or unsafe ships sailing the seas? We do have.

Mr. BORUM. We have ships that need special care and special consideration. The ABS rules recognize the need for more stringent survey as a ship gets older. We require a more stringent survey and a survey more in depth. I do not believe that in the context of the word "basket cases" that we have such.

Mr. STUDDS. In other words, we have some real problems. It is not just imagination.

Mr. BORUM. We have some real problems, yes.

Mr. STUDDS. Does ABS ever order that a vessel be scrapped?

Mr. BORUM. That is an economic decision of an owner. We do require extensive repairs, and many times rather than do the repairs, the owner elects to scrap the vessel. We are not in a position to order an owner how to dispose of his vessel.

Mr. STUDDS. When inspecting an old vessel, does ABS make allowances for its age?

Mr. BORUM. If in the sense of allowances you mean do we have more stringent requirements, the answer is yes.

Mr. STUDDS. But the minimal safety standards remain just that, is that correct?

Mr. BORUM. We try to maintain the same minimum safety standards.

Mr. STUDDS. Regardless of age.

Mr. BORUM. But we know we have to look further to maintain that in an older vessel.

Mr. STUDDS. Does ABS inspect older vessels more frequently than less older ones?

Mr. BORUM. The timing of our periodic inspections do not change with the age of the vessel.

Mr. STUDDS. Should they?

Mr. BORUM. At the present moment, we have no indication that a more frequent inspection would benefit.

Mr. STUDDS. Why is that, given the predictable, the increased frequency of problems with an older vessel?

Mr. BORUM. Our rules are predicated on an annual survey, and an annual examination appears to be satisfactory.

Mr. STUDDS. And in your judgment, those rules—

Mr. BORUM. And we, of course, are also dependent upon the owner and the Master exercising his proper authority and advising us when he is having difficulty.

Mr. STUDDS. And in your judgment, the rules are satisfactory, therefore, are not in need of changing?

Mr. BORUM. That is correct.

Mr. STUDDS. Then why do we have basket cases out there?

Mr. BORUM. I do not agree to the basket cases.

Mr. STUDDS. I thought you just did. Why do we have serious problems out there? Maybe the word doesn't appeal to you.

Mr. BORUM. We have older ships that have to be watched more carefully.

Mr. STUDDS. I don't want to belabor the point, but it does seem to me that if that is the case, it would be logical to at least seriously consider more frequent inspections, would it not?

Mr. BORUM. As I say, it is not indicated to us yet that more frequent inspections would solve the problem.

Mr. STUDDS. Over the course of the past 5 years, how many ships has the ABS withdrawn from class due to the condition of the vessel?

Mr. BORUM. I don't have an exact figure, but I signed the withdrawals in the last 3 or 4 years, and on the average we withdraw 4 or 5 every 2 weeks for failure to comply with survey requirements.

Mr. STUDDS. Can the ABS assess fines for a government, require repairs or prohibit a vessel from operating if repairs are not made?

Mr. BORUM. We cannot assess fines for any government. We do have the authority from certain administrations to advise the administration when repairs are not carried out, and the administration then takes its actions on its own.

Mr. STUDDS. Does the ABS share information about vessel deficiencies with anyone except the owner, with the government of the country of classification, with the government of the host country?

Mr. BORUM. The information in our files is available to the government of a country and in the case of one or two governments that specify classification as a condition of registry, they are automatically advised.

Mr. STUDDS. With insurance companies?

Mr. BORUM. Insurance companies do not, they are not privy to it. They accept our record as published.

Mr. STUDDS. Finally, when the ABS surveys a vessel to certify its compliance with the domestic marine safety laws of the flag state, for whom is the society working, for the Government, for the owner, or for both?

Mr. BORUM. When we are doing regulatory work, regulatory examinations, we are working as an agent of that government.

Mr. STUDDS. Who pays the society for the survey?

Mr. BORUM. By regulation, the owner pays for the survey.

Mr. STUDDS. The owner. Is the society free to communicate directly with the Government concerning the condition of the vessel, even if the owner objects to that communication?

Mr. BORUM. Yes, we are in that case.

Mr. STUDDS. Mr. Forsythe.

Mr. FORSYTHE. Yes, one more question, Mr. Chairman.

You are familiar with the MSIS system that the Coast Guard is just bringing on line. The admiral this morning said that it is information that is public information and, therefore, would be available to owners. Would the ABS be plugging in so that would not just be available but would be one of the resources that you would use in your survey?

Mr. BORUM. We have our own survey status system which gives us the complete history of any vessel on its survey status and on any special problems that it has had. We have offered in previous discussions with the Coast Guard the ability of the Coast Guard to tie in with that information system.

Mr. FORSYTHE. What are we doing with the Coast Guard if we plug into yours?

Mr. BORUM. It has been superficially discussed, and it hasn't been followed up in detail yet.

Mr. FORSYTHE. It is a little far down the road as I understand what the Coast Guard says. It is really in place, but they haven't got their data bank ability set up. Where are they getting it from, you?

Mr. BORUM. Not at the moment.

Mr. FORSYTHE. That seems to be a place where that coordination could be of advantage to both of you, at least in the case of this Government.

Mr. BORUM. I can well believe it could be.

Mr. FORSYTHE. Thank you. Thank you, Mr. Chairman.

Mr. STUDDS. Thank you very much, gentlemen. We appreciate it. Sorry for the delay.

Mr. BORUM. That is all right.

**STATEMENT OF HENRY A. DOWNING, EXECUTIVE VICE PRESIDENT, MARINE TRANSPORT LINES, INC., ACCOMPANIED BY THOMAS L. ROHRER, PARTNER, HEALY & BAILLIE**

Mr. STUDDS. Our final witness is Capt. Henry A. Downing, executive vice president, Marine Transport Lines. Captain Downing, please proceed.

Captain DOWNING. Mr. Chairman and members of the subcommittee, I am Capt. Henry A. Downing, executive vice president of Marine Transport Lines, Inc. [MTL]. With me today is Thomas L. Rohrer, a partner in the law firm of Healy & Baillie.

We appreciate the opportunity to appear before the subcommittee as you examine general issues of maritime safety, pending safety legislation (H.R. 3486) and, in particular, the circumstances surrounding the loss of the *Marine Electric*. This vessel was owned and operated by two of MTL's subsidiaries. The tragic loss of life associated with its sinking has been deeply felt by our entire company.

'Marine Transport Lines, Inc., headquartered in New York, is a leading owner and operator of ocean-going ships for bulk cargo transportation. MTL's bulk fleet is one of the world's most diverse and includes crude oil tankers, from handy-sized to VLCC's; petroleum product tankers, chemical tankers, dry bulk carriers, molten sulfur tankers, and liquified natural gas carriers operating in both U.S. domestic and international trades.

I have been with the company since July, 1978 prior to which time I was general manager of the marine department of Gulf Oil Corp. I have been a licensed marine officer for about 40 years. I began sailing as an unlicensed seaman in various positions, obtaining my third mate's license in New London, Conn. in 1944. From 1944 to 1956 I sailed for Gulf Oil Corp. in positions as third mate, second mate, chief mate and master.

From 1956 to 1978 I served in various capacities for Gulf Oil including port captain in New York and Texas; marine manager in Naples, Italy and Antwerp, Belgium. I also oversaw construction and commencement of operations of the Bantry Bay Transship-

ment Terminal. From 1973 to 1978 I was general manager of Gulf Oil's marine operation. From 1978 to the present I have been executive vice president and vice president of marine operations for MTL.

Since the loss of the *Marine Electric* in February of this year, it has been my chief responsibility to coordinate the company's investigation of the casualty. In the 5 months since the loss I would estimate that I have spent one-third of my time in matters directly related to the sinking.

The loss of the *Marine Electric* and 31 of her crew members is a matter of deep concern to MTL, as it is to members of the subcommittee. While understanding the cause of the vessel's loss does nothing to minimize the tragic impact on the families and friends of the lost crew, we believe it is important that the facts be accurately understood. It is for this reason that we are here today.

As you are aware, the marine board investigating the incident has already held 12 days of hearings and is scheduled to reopen those hearings this coming Monday to evaluate new evidence which has been obtained, primarily from the wreck itself, over the last 2 months. For this reason some of the questions you may have today may be best answered after this new evidence has been presented and evaluated. Nevertheless, I will attempt to outline in general terms the new evidence which MTL intends to present to the Marine Board next week.

We made preliminary investigations of the vessel by divers late in February; however, weather conditions limited the scope of that effort. In May we undertook a more thorough exploration of the wreck by means of underwater robotic equipment as well as divers. This investigation revealed extensive damage in the bow area of the *Marine Electric* caused by the starboard anchor backing out during heavy weather at sea. The 8-ton anchor battered the forward part of the hull and, in our opinion, caused the sinking of the vessel.

We found the starboard anchor missing and observed significant damage in the bow area that can definitely be attributed to the anchor and the anchor chain. It appears as though the anchor had not been properly secured by the primary securing device, that is, devil's claw, leaving the anchor being held only by the mechanical brake. Since no brake is designed to hold the anchor under these conditions, the anchor backed out and battered the bow and hull, causing the extensive damage observed and the eventual sinking of the vessel.

Among the damages that the underwater inspection revealed are several creases and a horizontal crack across the stem of the ship; bending of the entire forefoot of the ship below this crack at an angle of approximately 10 degrees to starboard; several large cracks in the port side adjacent to the bent section of the forefoot; a large mangled and crushed section of the starboard side of the bow, extending from the main deck down the side and into the bottom, with areas torn open and the bottom and side of the ship in this area out of alignment. Not only was this damage caused by the swinging action of the anchor and chain, but it also appears that the deep cut across the keel just aft of the forward deep tank and extending up the port side also was similarly caused.

In addition to this damage, the underwater inspection revealed that a large portion of the midsection of the vessel, over 240 feet in length, was torn out and rests upright some 1,700 yards from the main wreck. However, the main wreck remains intact, apparently held together by a portion of the starboard deck and upper hull.

In addition to the damage caused when the vessel sank, the rudder and propeller have been blasted free of the vessel by unauthorized divers. We also believe that they may have taken the missing starboard anchor and chain.

This information was gathered by an investigation team under the direction of MTL with representatives of the National Transportation Safety Board, the Coast Guard, and the individual claimants present. With more than 16 hours of video tape and other information to review, the company's evaluation of the data is not yet complete. Nor, as indicated, has the marine board had the opportunity to review this evidence.

Complete answers to many of the questions surrounding the casualty will have to wait for analysis of the large amount of data gathered and more that is still being sought. In answering certain factual questions, we may find ourselves walking a fine line between the needs of this subcommittee, the ongoing marine board investigation, and pending litigation.

Finally, we would like to express our general support for H.R. 3486, the Maritime Safety Act, recently introduced by Chairman Jones. As a company, we have a continuing interest in, and long-term commitment to, marine safety.

We understand that Admiral Benkert of the American Institute of Merchant Shipping (AIMS), of which we are a member, is scheduled to testify at the second day of hearings to be held on the 27th of this month. We support the association's position on this legislation and would like to defer to Admiral Benkert's responses to particular questions related to the legislation. Upon review of the specific provisions of H.R. 3486, however, we would offer our general observation that the sinking of the *Marine Electric* would not have been prevented by this legislation.

Mr. STUDDS. Thank you, sir.

Let me preface my questions by acknowledging that the subcommittee is well aware that there is pending litigation and there is a pending investigation. We do not intend, we should not and we could not resolve those matters, but we do have a broad, general, and legitimate interest, as you well know, in safety of people at sea and in ways in which the statutory regime of the United States adequately or inadequately deals with those problems. Our questions are asked with that very much in mind.

For the record, is it true that the *Marine Electric* was owned by Marine Coal Transport Corp.?

Captain DOWNING. Yes, it is.

Mr. STUDDS. Which is owned, in turn, by Marine Transport Management, Inc.

Captain DOWNING. That is true.

Mr. STUDDS. Which is owned, in turn, by Marine Transport Lines?

Captain DOWNING. Correct.

Mr. STUDDS. Which is owned, in turn, by the GATX Corp.?

Captain DOWNING. No longer. At one time.

Mr. STUDDS. No longer. Is it owned by someone else?

Captain DOWNING. No; it is an independent company now.

Mr. STUDDS. According to information we have, MTL owns, charters, or manages 35 vessels which fly the United States, British, Liberian, and Panamanian flags. Many of these vessels are quite new. One of the British, Liberian, or Panamanian vessels are more than 20 years old, but seven of the U.S.-flag ships, counting the *Marine Electric*, are 38 years or more.

Obviously MTL is no fly-by-night operation. Why is there such a distinction between the rest of the MTL fleet and the seven, now six, old U.S.-flag vessels?

Captain DOWNING. I don't know that there is a distinction. Basically, ships are built where you find the business. We are an owning company. We are an operating company. We operate ships for other people. We operate ships on our own behalf. If our customer happens to be a customer that requires a foreign-flag ship and we have a charter, we will build foreign-flag, charter it to that customer. If the customer is an American customer and requires an American-flag, we will build American-flag and operate to that.

In cases where the vessels are older, it is vessels that we have owned for a long time or we have managed for a long time; they have been maintained and they are operated accordingly, as has been discussed earlier. The building costs today of a new ship is atrocious.

Mr. STUDDS. Let me subject you, if I may, and I apologize for reading one more time, to the quotation we have cited twice already from the Philadelphia Inquirer:

Billions of dollars in Government maritime subsidies intended to promote the construction of the modern American fleet have perversely done the opposite, created a fleet of ancient and dangerous U.S. ships that have been taking American seamen to their deaths with alarming regularity. Many of the ships in the U.S. fleet are so unseaworthy they could not begin to pass U.S. Coast Guard safety regulations. They go to sea anyway. They do so with the complicity of industry, labor, Congress and the Coast Guard, itself.

What is your reaction to that statement, and do you agree with the basic thrust of the Inquirer articles; namely, that we have a significant safety problem with respect to these older ships?

Captain DOWNING. I think we have a significant problem in relation to the older ships, not because of the older ships, but because older ships are going to have to be phased out, and we don't have new ships coming onstream to replace them. The older ships that are going to sea for the most part that are certified by the Coast Guard, those that the Coast Guard inspects and those that are certified by the Classification Society in general are ships fit for the sea, and just because they are old does not make them unfit.

Mr. STUDDS. The Inquirer in that series also stated that MTL has a long record of maritime disasters and near misses on old ships unequaled among American ship companies in the last 20 years.

What is your response to that statement?

Captain DOWNING. Again, quite often conclusions are drawn before facts are known. That article concludes that the *Marine Electric* sank because of the hatches. I think when the facts are completely evaluated, that will prove to be erroneous.

In the case of the *Marine Sulfur Queen*, I was not associated with the company at that time, but it disappeared and there is no knowledge of what caused it to sink, whether age was a factor or not. It could have been a brandnew ship.

One other instance I think referred to was the *Floridian* that lost its rudder and hit a bridge. I was not with the company at that time, but again at that time any ship brand new could have done the same thing because there were no requirements for backup steering systems in those days.

Mr. STUDDS. The quotation to which I just asked you to respond does not refer specifically to the *Marine Electric* or the cause of the disaster. It refers to a long general record alleged by the statement "Maritime disasters and near misses on old ships," that it says is uniquely bad among the industry in the last 20 years.

Captain DOWNING. Correct.

Mr. STUDDS. Is that an accurate statement quite apart from the cause of any particular disaster?

Captain DOWNING. I think basically I only know of four instances of marine transport ships that I can think of off the top of my head, and I just referred to three of them, the *Marine Electric*, the *Sulfur Queen*, and the *Marine Floridian*. I think there was another one long before I was associated with the company, and I have no knowledge of that one, but in three of those four, age probably was not a factor, and any ship could have suffered the same disaster.

Mr. STUDDS. Why did MTL ask for a delay in the last scheduled drydocking inspection of the *Marine Electric*?

Captain DOWNING. At that time the customer had a requirement of continuing need for the ship. The ship was in good shape. We requested it because we knew it was in good shape, and there was no problem of extending the dry docking by two months, and we received permission from the Coast Guard because they agreed with our evaluation. There was no major deficiencies on that ship which made it unfit for the sea.

Mr. STUDDS. How long did you intend to maintain the *Marine Electric* in service?

Captain DOWNING. For at least 3 more years, and possibly longer. It would have been a financial decision. At that time we would have been facing some steel work in the various areas that would have been below the permissible thicknesses or coming down to that level, and to have got a certificate for another 4 years we would have been required to put significant money in new steel in the vessel, and at that time we would have evaluated what the market condition was, and if the justification was there for the investment.

Mr. STUDDS. How long do you intend to maintain your other World War II vintage T-2 tankers and cargo vessels in service?

Captain DOWNING. In general, it is the same sort of answer. Normally when you come up to the point where you have to put a large amount of dollars in new steel or if you have a major machinery problem where you have to redo the engine or if the vessel has become totally unacceptable because of fuel efficiencies, then you have to evaluate what the dollar cost is of modernizing and upgrading the vessel versus scrapping it and coming up with another vessel.

Mr. STUDDS. This is a more general question. As a vessel owner, do you accept the responsibility for maintaining your ships in good condition?

Captain DOWNING. Yes, I do.

Mr. STUDDS. Do you agree it is your responsibility, not the Coast Guard's, not the ABS, not the crew, to maintain a safe vessel?

Captain DOWNING. I maintain it is our responsibility. However, we must have advice from the crew and we do depend on that advice as well as advice from inspection reports by both the Coast Guard and ABS, and we act on all those advices.

Mr. STUDDS. But if I understand you correctly, you do accept the ultimate responsibility.

Captain DOWNING. It is our ultimate responsibility to maintain the vessel.

Mr. STUDDS. The transcript of the Marine Board of Investigation hearing is full of testimony depicting the condition of the hatch covers, as you know. Would you agree that watertight or weathertight hatch covers, are necessary for the safe operation of a vessel?

Captain DOWNING. I would agree that weathertight hatch covers are necessary. I don't necessarily believe, and this would have to be borne out by proper study, that a leak in the hatch cover could result in the sinking of a vessel. I believe that the repairs that had been done on our hatch covers were satisfactory repairs. They were repairs done by doublers, which is a satisfactory means of doing a repair. It is an acceptable procedure that is widely used; it has always proven satisfactory.

Our concern with the hatch covers on the *Marine Electric* was one of watertight, not weathertight. We just 7 or 8 months prior to the sinking had carried a load of grain to Israel, and we had no grain damage, which indicates the hatches were watertight, which is well above weathertight.

There were some remarks made of the alinement of the hatches. Most cargo ships have problems with the alinement of the hatches, and the crew has to use skill and knowledge in handling the hatches.

Mr. STUDDS. The distinction has been made before. Would you define for me in your own understanding the distinction and meaning between weathertight and watertight?

Captain DOWNING. Yes; watertight would be any ingress of water, even a small drip or a small amount of water allowed to go in. Weathertight is something that would not allow the weather to pound into the area. This would be my definition of it. I won't attempt to give you a Webster's definition.

Mr. STUDDS. If I understand you correctly, it is sort of generally adequate to withstand weather at sea and watertight conditions so that not a single thing can get in no matter what?

Captain DOWNING. Right.

Mr. STUDDS. It must be an awesome degree of weathertightness.

Captain DOWNING. You may have a weathertight hatch, and in the carriage of some cargoes a small ingress of water would not be a major problem. On the other hand, if you had watertight, you were carrying cargo such as grain, a small ingress of water is a problem, and you have to overcome that.



Mr. STUDDS. Do you believe that the hatch covers on the *Marine Electric* were in good condition?

Captain DOWNING. Yes, I do.

Mr. STUDDS. Then how do you explain the sketches made by Mr. Cusick and the other statements made before the Marine Board? Is this a hallucination from long days at sea, or what?

Captain DOWNING. No; I think the sketch made by Mr. Cusick was a routine sketch that was made because dry docking was coming up and repairs would be made or decisions would be made to renew panels based on what the overall condition of the hatch was. We had just renewed one hatch panel on there. We had another one on order that we knew we would renew, but that did not mean that structurally they were not satisfactory for the intended trip.

Mr. STUDDS. The testimony, as you know, is replete with references and descriptions of the most ghastly kind of the condition of those hatches. Are you telling us that that is the normal condition of hatches and is satisfactory?

Captain DOWNING. It is not the normal condition of a new hatch, but as a hatch wears, it is normal, and there will be doublers on any cargo vessel that has had the cargo hatches for any length of time. When I say any length of time, over a period of years you do get pit holes in there. You do get wastage holes that you double. It is a routine repair procedure. It is not an unusual one.

Mr. STUDDS. Do I understand from what you said that, unlike the Coast Guard and the ABS in response to the same question earlier, you do think that some allowance should be made for age, at least with respect to the condition of the hatch covers?

Captain DOWNING. No, I really don't. When you build a vessel, you have a minimum standard that you have to comply with. Normally a vessel is built above that standard.

Mr. STUDDS. And it is your contention that the hatch covers of the *Marine Electric* when she last sailed met that minimum standard?

Captain DOWNING. Yes, it is.

Mr. STUDDS. Have you or will you file a petition to limit your company's liability to estates of the victims of the *Marine Electric*?

Captain DOWNING. I am sorry; you will have to talk to the lawyer on that one. I am an operating man. I don't get into the legal side of it.

Mr. STUDDS. Mr. Rohrer.

Captain DOWNING. I am sorry, I have the unusual distinction of having a lawyer with laryngitis.

Mr. STUDDS. That is one of the more appealing concepts that I have heard. Is there any chance that it is contagious? Are you able to speak or only in response to certain questions?

Mr. ROHRER. The answer is yes.

Mr. STUDDS. Yes; you have filed.

I have only one more for you. I apologize for the pain. Either one of you. Should the Congress reassess the fairness or equity of the laws allowing for the shipowner to limit his liability?

Mr. ROHRER. If I were a legislator, I would be reviewing many laws many times over. I would have to say not from my position in

the maritime field, but just generally, that I would review that among many other things.

Mr. STUDDS. I appreciate that. It is a rather unusual question to give you. I do encourage you while you are here to visit every conceivable law office in town that you can, and also every legislator. It is very appealing.

I apologize for forcing you to answer any questions. It sounds like you are very uncomfortable.

Mr. FORSYTHE. Thank you, Mr. Chairman.

I thank the witnesses and realize that we still have to wait for the final reports of the review board. Do you have any idea when that might be concluded?

Captain DOWNING. I really have no feel for that.

Mr. FORSYTHE. When is that final hearing that is scheduled? August 2. That is pretty fast. Well, thank you both very much.

Mr. STUDDS. We thank you, gentlemen.

Let me just say, in conclusion, that this is the first, as Mr. Forsythe has just alluded to, of three hearings the subcommittee will be holding on marine safety. I have learned not to generalize from particular incidents, but I am more convinced right now than I was 5 hours ago that the *Marine Electric* was not simply an isolated incident which carried with it no implications of broader concern. We do have a problem, and we need all of us, the Congress, the ship-owners, the Coast Guard, and the American Bureau of Shipping, to be less complacent, I think, to take less for granted, and to address these issues in a very serious way.

It is only my opinion, but I do not believe that any unsafe merchant ship should ever sail, and I am not comforted by statements about the majority of ships. I am concerned about each and every ship that sets to sea. It seems to me that any standard less than that is utterly impossible to justify in any way.

Mr. Forsythe, do you have any final word?

Mr. FORSYTHE. No.

Mr. STUDDS. Thank you, gentlemen.

The subcommittee stands adjourned until the 27th of July.

[Whereupon, at 2:55 p.m., the subcommittee was adjourned to reconvene on Wednesday, July 27, 1983.]

[The following was submitted for the record:]

# *The Seafarers International Union*

OF NORTH AMERICA • AFL-CIO

5201 Auth Way, Camp Springs, Maryland 20746  
301-899-0675

FRANK DROZAK  
*President*



August 15, 1983

The Honorable Gerry Studds  
U.S. House of Representatives  
Washington, D. C. 20515

AUG 19 1983

Dear Congressman Studds:

In reply to your inquiry during my appearance before the House Subcommittee on Coast Guard and Navigation on July 19, 1983, please be advised that on October 26, 1981, Frank Drozak, President of the Seafarers International Union of North America, AFL-CIO, submitted for the record a letter addressing the relationship between minimum manning scales and marine accidents.

Specifically, the letter responded to your request at the 1981 oversight hearings on Coast Guard roles and missions that the SIU provide the Subcommittee with "a description of vessel casualties which have occurred because of the absence of sufficient numbers of seamen and merchant marine personnel on vessels."

For your information, I am enclosing a copy of the correspondence sent to the Subcommittee in response to your inquiry. If we can be of further assistance, please do not hesitate contacting us.

Thank you for your many courtesies to the SIU and your continued efforts to promote the safest possible environment for the men and women who earn their living from the sea. We look forward to working with you, the other Members of the Subcommittee and the U.S. Coast Guard to achieve that goal.

Sincerely yours,

*Frank Pecquet*  
Frank Pecquet  
Legislative Director

Enclosure

# *The Seafarers International Union*

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FRANK DROZAK  
President



October 26, 1981

The Honorable Gerry E. Studds  
Chairman  
House Subcommittee on Coast Guard  
and Navigation  
H2-545 H.O.B., Annex 2  
Washington, D.C. 20515

Dear Mr. Chairman:

I appreciate this opportunity to further comment on the Coast Guard's bare minimum philosophy in determining the manning scales for commercial vessels and to reinforce our belief, as stated in my testimony before your Subcommittee on June 19, 1981, that this practice jeopardizes the safety of life and property at sea.

It is our contention that adequate manning must account for safe navigation and vessel operation; proper underway maintenance of a vessel and its machinery; unmooring, and tank cleanup; emergencies; injury or illness; ability to aid a ship in distress, and ability to operate the vessel manually in the event that automation gear fails. When manning levels are insufficient to cover -- at the very minimum -- these situations, excessive work hours are inevitable, fatigue results and the chance for casualty increases.

As evidenced in several of its investigatory reports of marine accidents, the National Transportation Safety Board has expressed its concern over this question of excessive work hours and fatigue, and their relationship to injuries, casualties and fatalities.

For example, on November 18, 1972, the Master, Chief Mate and Second Mate of the S.S. WILLIAM T. STEELE were killed while

loading benzene gas. Due to an oversight in lining up tank valves, the gas was loaded into the wrong tank and began to leak. This occurred while the two crew members were in the forward section of the tank and the Chief Mate was aft.

In its report on the accident, the National Transportation Safety Board noted: "During cargo handling, the crew normally worked considerable overtime and performed their tasks in the most expedient manner. Consequently, the officers and crew often performed their tasks while fatigued and without sufficient guidance to assess the risks."

The report further stated: "The Chief Mate... probably fatigued from working more than 24 hours immediately before his death, and from supervision of numerous tasks, was not prepared to supervise cargo loading adequately."

The National Transportation Safety Board recommended, among other things, that the Coast Guard "seek authority to establish guidelines that will, except in emergencies, prevent excessively prolonged duty periods which result in fatigue and deteriorated duty performance." (Reference: NTSB Recommendation No. M-74-30) The Coast Guard's response, notwithstanding the deaths on the WILLIAM STEELE and the excessive overtime being worked by many American seamen, was to reject the NTSB's recommendation. The Coast Guard stated that the recommendation "would appear to be redundant" in light of existing law (46 USC 673).

In 1972, the tug CAROLYN, while towing a barge, lost propulsion on the Chesapeake Bay and collided with the Bay Bridge and Tunnel. According to the National Transportation Safety Board, the master's state of fatigue contributed to the accident: "The effect of these stresses, i.e. the master's inability to respond adequately to the changing situation, was heightened by the fact that the master had had no rest...."

The Coast Guard's Marine Board of Investigation made no mention of the fatigue factor in its report, nor did the Actions of the Commandant. Yet, the National Transportation Safety Board recommended in its report that the Coast Guard "Determine the effects of fatigue on personnel error as a cause of marine casualties, with particular reference to the sizes of crew carried on towing vessels." (Reference: NTSB Recommendation No. M-74-2)

To our knowledge, aside from the Task Analysis Report Relative to Vessel Collisions, Ramming and Groundings,

prepared for the Coast Guard by Operations Research Inc., no further study has been completed by or for the Coast Guard to examine the need to prevent accidents by reducing excessive overtime through augmenting the crew size. The Task Analysis Report itself recognized stress, fatigue, and boredom as factors to consider in accident prevention but did not note any remedy or recommendation for the problem of fatigue as it relates to crew size.

The level of manning also came under question during the NTSB's investigation of marine accidents in which the U.S. Motor Tankship SEALIFT CHINA SEA rammed an Italian Vessel LORENZO D'AMICO in Los Angeles Harbor on January 15, 1978 (Reference: NTSB Recommendation No. MAR-79-13) and the collision of the Coast Guard Cutter CUYAHOGA with an Argentine freighter M/V SANTA CRUZ II in Chesapeake Bay at the mouth of the Potomac River on October 20, 1978 (Reference: NTSB Recommendation No. MAR-79-3).

The first accident was caused by the use of a makeshift system of transmitting engine orders by hand signals to a person who was manually operating the controllable-pitch propeller (which controls the direction and speed of the vessel) at the local control station in the engine room. The makeshift system was necessary because the semiautomatic control that would normally have been accomplished from the engine room, had failed -- as it had several other times previously. The manual mode of operation was extremely awkward because there was no method for the person at the local control system, who was manually operating the hydraulic valve level to change the propeller pitch, to receive orders from the bridge. Orders from the bridge could only be transmitted to the engine control room. Because the local control station for the propeller was two levels below and 50 feet aft of the engine control room, hand signals -- going through an intermediate third person located between the two -- were used to transmit those orders. Not too surprisingly, the signals became confused and the ship was put ahead when astern was ordered during a turning maneuver. Since the indicator that showed the direction of thrust on the bridge and engine control room was part of the failed automated system, no one but the person at the local control station had any indication of the direction of the ship. By the time the officers on the bridge realized what was happening, the collision had taken place.

Many factors entered into this accident, but the crux of the matter is the reliability of automatic control systems and

the adequacy of back-up systems and manning levels to continue safe ship operations when they do fail.

The Coast Guard directive that governs the operation and manning of ships with automated engine rooms is Navigation and Vessel Inspection Circular (NVC) No. 1-69. In connection with that circular, the NTSB raised the question of whether the manning in the engine department was adequate to meet the intent of NVC No. 1-69 which states:

The final manning requirements established for any vessel will be based upon the results of: (1) a complete plan review of the equipment, and the monitoring safety and labor saving devices installed, (2) a period of proven operation and reliability following the initial testing and de-bugging, (3) a period of Coast Guard on-board observation, and (4) for unattended machinery operation, an acceptable plant maintenance program which insures the continued quality of the demonstrated plant reliability.

The NTSB then noted that "the frequency of requests for the services of Tano to repair the control system in the CHINA SEA and other vessels of the class indicates that an adequate degree of maintainability had not been achieved." If the ship were not automated, a three man engine room watch would have been required, rather than the one or, subsequently, two man watch on the CHINA SEA. Since an unreliable automated system creates much more work and operating problems than a normal non-automated engine room, it is indeed questionable whether the manning was adequate for the circumstances. It is questionable whether the Coast Guard should allow a ship with its controls impaired to proceed at all. But given that it regularly did allow the ship to do so, it is likewise questionable whether the manning was sufficient for the conditions.

On October 20, 1978, the Coast Guard Cutter CUYAHOGA collided with an Argentine freighter in the Chesapeake Bay at the mouth of the Potomac River. The CUYAHOGA sank, and eleven Coast Guardsmen died. According to the NTSB:

The probable cause of this accident was the left turn executed by the CUYAHOGA, while in proximity to the SANTA CRUZ II, contrary to the Rules of the Road as the vessels were meeting head and head. The failure of the Commanding Officer of the CUYAHOGA to determine the relative motion, course, speed, or closest point of approach of the SANTA

CRUZ II, and the failure of the CUYAHOGA to initiate bridge-to-bridge communications by radiotelephone to exchange navigational information. Contributing to the loss of life was the lack of emergency lighting aboard the CUYAHOGA.

Behind all of that was the number of crewmen on board -- which fell far short of a proper manning scale -- and the level of experience and competence of the crewmembers. The CUYAHOGA was a training vessel, and at the time of the accident had 19 people on board who were trainees of varying status. The regularly authorized crew was 11 persons, including the commanding officer. Because two of the regular crew members were on liberty and had not been replaced, the ship was operating with a commanding officer and 8 crew members. This made it impossible to operate under the three-watch system that was required for normal operations of this vessel (and of most commercial vessels). A normal watch consisted of six people, an Officer-of-the-Deck, a Quartermaster-of-the-Watch, a Boatswain Mate-of-the-Watch, a helmsman, lookout and an engineer on watch, so 18 permanently assigned crewmembers would have been required to maintain three watches. It should be noted that the number of crewmen aboard was not even sufficient to maintain a two-watch system. Probably because of this short-handed situation, a reserve seaman apprentice with only 3 1/2 months in the Coast Guard and no previous experience aboard any ship was lookout at the time of the collision. The short-handed state was exacerbated by the fact that the crew had not only to operate the ship, but provide instruction to the large number of trainees at the same time. Distraction was inevitable.

Problems of equipment, manning level, and competence of personnel are all indications of the difficulty the Coast Guard has in carrying out its missions. In the case of the CUYAHOGA, they led to a tragic loss of life.

Although it is difficult to pinpoint the exact cause-effect relationship between crew size, fatigue and casualties, general research on fatigue and sleep deprivation are clear. Such research shows that long hours of work, interrupted sleep, fatigue and a diminution of efficiency and productivity are related. Furthermore, the loss of capacity most affects those abilities that are most needed for effective response, signal detection, calculation and recent memory.



To quote the Symposium on Methodology in Human Fatigue,

"Fatigue appears to be the chief factor limiting a person's output. Various studies have shown that when the working day is lengthened, hourly productivity goes down, and when the number of hours is reduced, hourly performance increases, thus, long working hours at overtime are relatively inefficient since production does not appear to be maintained... with a consequentially greater likelihood to accidental errors."

Other studies and independent interviews demonstrate that personnel aboard some U.S.-flag vessels are performing overtime at rates that are both alarming and dangerous, producing fatigue and interrupted sleep. For instance, merchant seamen often work 14-16 hours per day, seven days per week -- without rest or relaxation -- to keep a vessel running. Even when in port, these men are captive to the duties that must be performed in loading and unloading a vessel and preparation for its fast turnaround. Consequently, the net effect is tension and fatigue which inevitably lead to accident, injury or even death.

Obviously, this situation exists because vessels are operating with insufficient crew complements to accomplish the requirements of shipboard jobs.

Additionally, these problems become more acute as ship operations become increasingly more complex, placing an increased demand on a curtailed crew complement. As noted by the Marine Index Bureau,

"The increasing size and speed of modern ships, the hazardous nature of many cargoes, and the necessity to operate in some dangerous, crowded waters increase the physical and psychological stress placed on the crews to the point where human failure of the less than sound becomes likely. Published records and data on file at this Bureau offer numerous instances where a seaman has collapsed from fatigue, or become otherwise 'unseaworthy' during the stress of hazardous operations."

Perhaps, the overwhelming authority in ascertaining the cause-effect relationship between crew complement and casualty is the licensed and unlicensed merchant mariner who must live and work under Coast Guard rules and regulations and who experiences, first-hand, the full impact of the Coast Guard's

philosophy of bare minimum manning levels. That undermanning leads to fatigue, which in turn leads to unnecessary risk and or even accidents were repeatedly stressed by these men:

Master

"Definitely not (sufficient manning levels). To cope with the safety factors today -- a man has to be under a heck of a continuous strain, due to undermanning -- especially on these tankers." (Speaker is on an automatic tanker.)

"Problems with reduction of the crew -- it results in having people who are strained to the very breaking point of their ability. And that's not good."

Chief Mate

"There's never enough men for tying up. I found myself -- as 2nd mate -- handling lines and doing the work the AB (able seaman) would normally do. Consequently my job as supervisor -- I couldn't do that because I'm busy. And we had a guy who got his leg almost cut off -- because we just didn't have enough men (on tying up). I finally got off the ship."

"On another tanker -- running between Curacao and Maracaibo; a 12 hour run. During that you have to stand a watch -- try to get some sleep -- then when you get into port, you have an 8 hour watch and another at the other end. Consequently you're only getting a couple of hours sleep -- creating a dangerous situation -- where the mate on the bridge is not fully aware, falling asleep. We did this for weeks on end. He's getting run down."

Second Mate

"The number of personnel on the ship -- that's the biggest thing, especially on a coastwise tanker when you're in and out of port all the time, you put in long hours on deck loading and discharging and having to go the the next port in 5 days and doing the whole procedure over again. And usually on the trip south-bound you have tank cleaning and other operations besides the maintenance of the vessel. So therefore the biggest point is the manning of the vessels -- they don't have enough men."

"After you've gone past 12 hours, I don't care who you are, unless you're superman, your thinking ability starts to slow down and there's more possibility of accidents and

trying to do something the quick way to get it over with, not paying attention to what you should be doing. It's dangerous situation for everyone all around.

"Something as simple as tying up a ship -- on ships that have reduced manning. The Mate, whoever he might be, in the bow or the stern, usually has to give the seaman a hand to help get the thing done. Because it is important that you get your lines out fast; you have tidal and wind currents. But so many times when you're helping them you're taking away from the safety factor in that you're not watching, as you should be, the seamen and everything going on around you. Instead of supervising the job, you're doing it yourself and it leads to a hazardous condition. I've noticed with myself, sometimes it's [an accident] been narrowly avoided, not watching at the right time. Twenty-six men on the ship, 2 AB's on watch and just not enough to go around to tie up a ship."

#### Chief Engineer

"When you have an accident -- an emergency; you're down to your key people. And if your key people are involved in everything else around the ship -- they're not going to be fresh -- be ready for the emergency -- they're still under the strain. The only way you can handle this is to have a rest period -- which is impossible to enforce."

(Speaker is on a fast turnaround barge carrier) I just feel that we're being pushed right to the wall with the manning scales now. we find ourselves moving regularly with no rest. I have times when my whole ship is tired out -- you know. When you're on these fast turnaround ships, you find people walking around -- all numb -- because they've been going so many hours. We don't engage in going ashore -- on our ship. It's impossible, the machinery isn't idiot proof -- so we have to keep it going. If you have a breakdown and it takes you an hour -- it costs you the tide -- maybe. You gotta have a little bit of luck in order to pull this thing off."

"The chief has to stay up for maneuvering -- so you can find yourself awake (all the time) in Europe."

"I don't know the solution -- other than increasing the manning scale -- to the point when you have enough manpower to assure rest...."

"What it comes down to is that there are a lot of fast turnaround ships being run with people dead tired, and unable, in an emergency, to really function."

#### Bosun

"And when you are cleaning tanks, anyone who wants to go down -- it's impossible to do it with what you got in the deck department."

"This is where a lot of accidents happen -- you don't have enough men to tie so you grab a couple out of the Steward department -- they don't really know what they're doing -- they get in a line or something."

"Some ships that don't carry but 6 AB's, there is a certain time that there's no lookout at night. You've got to have a break in that 4 hour period."

"AB has to leave the bow -- 20-30 minutes for his coffee -- then he goes and relieves the wheel who gets his coffee. There's an hour that there's no lookout."

#### Pumpman

"On the newer tankers, the manning scale -- as far as the pumpmen go, they only carry one pumpman. And that means one pumpman got to stay up for like three days, without any sleep to discharge the cargo. All the new tankers coming out -- there's only one (pumpman). And those are the big ones.... There's a lot of wear and tear on yourself and your have an easier chance for some kind of spill." "Even two days -- that's a long time."

#### Electrician

"It makes you, yourself, careless. It's happened to myself sometime.... Being tired and making misjudgements putting equipment together. You just have to tear it apart again and put it together again just because you're tired."

"You have to work because you can't call anyone else up to do it."

#### QMED

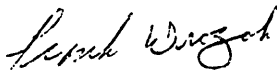
"We're undermanned. To the extent that people get hurt because they have to put so many hours in overtime. I was on the (vessel), I was the chief pumpman on there. After working over 2 days, (the man the speaker replaced) had to

repair a winch, and he caught his arm in that winch (and as a result lost his arm). He was over-tired -- but there was nobody else to do that job."

It is our view that the above comments clearly emphasize the urgent need for the Coast Guard to set manning scales on an informed and rational basis bearing in mind the inseparability of vessel operation and continual maintenance.

I respectfully request that these comments be inserted in the record of comprehensive oversight hearings being presently conducted by your Subcommittee concerning all phases of Coast Guard operations and services.

Sincerely,

A handwritten signature in dark ink, appearing to read "Frank Drozak", written in a cursive style.

Frank Drozak  
President

# MARINE SAFETY PROGRAM

WEDNESDAY, JULY 27, 1983

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON COAST GUARD AND NAVIGATION,  
COMMITTEE ON MERCHANT MARINE AND FISHERIES,  
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:30 a.m., in room 1334, Longworth House Office Building, the Hon. William J. Hughes (acting chairman of the subcommittee) presiding.

Present: Representatives Hughes, Forsythe, Studds, Carper, and Sawyer.

Staff present: Bill Woodward, Sandy Holt, Suzanne Bolton, Gina DeFerrari, Andy Schwarz, Cher Brooks, Duncan Smith, Brooks Bowen, Ed Welch, Bob Kurrus, and John Cullather.

Mr. HUGHES. The subcommittee meets this morning to conduct the second of three hearings concerning the marine safety program of the U.S. Coast Guard. These hearings were prompted by three recent maritime tragedies—the sinking of the collier *Marine Electric* in February 1983; the capsizing of the Mobile Offshore Drilling Unit, *Ocean Ranger* on February 14, 1982; and the disappearance of the merchant vessel, *Poet*, on or about October 26, 1980.

These three incidents took a total of 149 lives and each raised serious questions about marine safety inspection procedures, and about the ability of merchant crews to survive emergencies at sea.

Although these hearings are broad in scope, we hope to emerge from them with some specific recommendations for statutory and administrative change. The proposed Maritime Safety Act of 1983, H.R. 3486, has been introduced by the chairman of the full committee, Mr. Jones, and will serve as the basis for any legislative action we will take.

As in our previous hearing on July 19, we will focus on the overall safety record of the aging U.S. merchant fleet.

We will also take a look at the particular safety problems of offshore drilling units, and at the importance of training in rescue swimming to the search and rescue program of this country.

We have an excellent list of witnesses and I look forward to an interesting and informative day.

The gentleman from New Jersey, Mr. Forsythe. Do you have an opening statement?

Mr. FORSYTHE. Thank you, Mr. Chairman. No, I do not have any opening statement.

Mr. HUGHES. The gentleman from the State of North Carolina, the distinguished chairman of the full committee, has an opening statement which, without objection, is made a part of the record.

Also, Mr. Young, the distinguished ranking minority member of the Coast Guard Navigation Subcommittee, has an opening statement which, without objection, is made a part of the record.

[Material referred to follows:]

STATEMENT BY THE HONORABLE WALTER B. JONES, CHAIRMAN, COMMITTEE ON  
MERCHANT MARINE AND FISHERIES

Each year there are numerous serious maritime accidents involving the loss of hundreds of lives. This committee believes that all reasonable action should be taken to reduce loss of life at sea. It is for this reason that I have introduced H.R. 3486, the "Maritime Safety Act of 1983".

One of the primary consequences of my bill would be that owners, managing operators, and agents would be required to take upon themselves significant responsibility for the safety of their vessels and crews. Whereas most United States flag owners put safety up front, some apparently do not. Therefore, H.R. 3486 includes a provision to ensure that vessel owners and managing operators have sufficient incentive to maintain valid inspection certificates. My bill is also designed to ensure that owners and managing operators keep track of their own vessels and report to the Coast Guard in the event that they are out of communication with a vessel for over 48 hours.

Part of today's hearing will be directed towards lifesaving equipment and procedures, and personnel training standards. These are also areas in which industry must take the lead in order to ensure safety.

In our consideration of marine safety, we must try to balance the need for reasonable safety standards with a realistic view of the economics involved in U.S. flag vessel operations. In doing so, however, I believe that all parties concerned—the Congress, the industry, the Coast Guard, and other Federal agencies—should be strongly inclined to move in the direction of safety of life at sea. Too many times we have become complacent and it has taken a major marine disaster before necessary safety standards are defined, established and enforced.

I look forward to hearing from all the witnesses who have been invited to appear today and sincerely hope that these hearings will be valuable to our mutual goal of improving marine safety and preventing loss of life at sea.

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STATEMENT BY HON. DON YOUNG A REPRESENTATIVE IN CONGRESS FROM THE STATE  
OF ALASKA

Mr. Chairman, today we continue the hearings on the marine safety programs of the Coast Guard and their impact on the maritime industry.

I just want to restate the points I made during the last hearing. That is, in pursuing our oversight responsibilities we must balance the need for safety with a realization of the dangerous nature and risks of the marine industry. Just passing laws or adopting regulations is not the only solution. We must also look at the way in which the Coast Guard implements the safety program and the resources it has to perform its responsibilities. Further, we must look at the efforts made in the private sector to create the safest environment possible for this industry.

Mr. Chairman, today we have both government and maritime industry representatives who, I believe, will be able to give us a good look at both the government's program and the procedures in industry. I welcome them here today and look forward to hearing their testimony.

Mr. HUGHES. The gentleman from Massachusetts.

Mr. STUDDS. I have no statement.

Mr. HUGHES. The first witness we have is Adm. Harold E. Shear, who is Administrator of the Maritime Administration.

Admiral Shear, if you will come forward.

Welcome. We apologize for the delay but, unfortunately, we had simultaneously a Democratic and Republican caucus meeting this morning.

We apologize to you and the other witnesses and those in attendance today for the delay. I understand that you do not have an

opening statement but would you like to make some opening remarks, Admiral?

**STATEMENT OF ADM. HAROLD E. SHEAR, ADMINISTRATOR, MARITIME ADMINISTRATION, ACCOMPANIED BY WALTER LOCKLAND, EXPERT ON EMERGENCY COMMUNICATIONS, MARITIME ADMINISTRATION**

Admiral SHEAR. Thank your, Mr. Chairman.

Mr. HUGHES. You may proceed as you see fit.

Admiral SHEAR. I am pleased to be here to answer questions with regard to H.R. 3486, a bill to promote maritime safety.

As you noted, I have no prepared statement as such.

I am accompanied this morning by Mr. Walter Lockland of my staff, who is an expert on emergency communications, among other things.

I am prepared to proceed with any questions which you may desire to ask.

Mr. HUGHES. Admiral, a recent article in the Philadelphia Inquirer stated that billions of dollars in Government maritime subsidies intended to promote the construction of a modern American merchant fleet have perversely done the opposite—created a fleet of ancient and dangerous U.S. ships that have been taking American seamen to their deaths with alarming regularity.

Many of the ships—the article goes on to say—are so unseaworthy that they could not begin to pass United States safety regulations. They go to sea anyway. They do so with the complicity of industry, labor, Congress, and the Coast Guard itself.

What's your reaction to that statement? Is that a fair assessment to suggest that the Government maritime subsidies have created a fleet of dangerous ships that have been taking American seamen to their graves with alarming regularity?

Admiral SHEAR. I think that statement is quite an exaggeration, Mr. Chairman. I don't think it's fair to suggest that maritime subsidies, per se, have created a fleet of dangerous ships.

I might point out that most of the operating subsidies today support the U.S. foreign flag liner fleet, and that is a quite modern, safe, and efficient fleet.

There's a very modest amount of subsidy that goes into the bulkier area of the fleet.

Mr. HUGHES. Well, it is true, is it not, that our fleet, when you look at the vintage, is an older fleet than most major maritime nations?

Admiral SHEAR. There isn't any question that we have a large number of older vessels, particularly in the smaller tankers and the conversions of the T-2 variety.

I would point out, however, that we do have a quite modern fleet with regard to the lash barge-type—the barge-carrying ships—the roll-on, roll-off ships and the container ships which are quite equal to the rest of the world with regard to age.

This is not to say, however, that we do not have a significant number of the older tankers and tanker conversions.

Mr. HUGHES. So, basically, your quarrel is with the suggestion that the catalyst for the aging fleet, in essence, is the maritime



subsidy, and you do make an exception for the newer vintage ships—the roll-on, roll-off variety but, aside from that, you do acknowledge that, compared to other major maritime nations, our fleet is an aging fleet.

Admiral SHEAR. I do but——

Mr. HUGHES. We have a higher proportion of vessels that are over 30 years in the 500-ton category.

Admiral SHEAR. I don't dispute that. That is quite correct. We have a significant number of older vessels.

Mr. HUGHES. How is the safety record compared to other countries?

Admiral SHEAR. If you are referring to the safety record overall, I think our safety record overall with regard to all casualties over the years is equal or better than other nations and other types of vessels on the world scene.

I will leave the specifics of that to the Coast Guard. I think they've already testified to that, and I don't have all of those facts at my fingertips.

Mr. HUGHES. I see.

Admiral SHEAR. But I know that our safety record overall is very good.

Mr. HUGHES. Does the administration have a compilation of that data that you could submit for the record?

Admiral SHEAR. I'll insure that it's submitted for the record.

Mr. HUGHES. Thank you.

Approximately how many T-2 tankers, or converted tankers, are still operating in the U.S.-flag fleet?

Admiral SHEAR. At present, there are approximately 70 T-2 tankers or T-2 tanker conversions that are still operational.

That doesn't mean that all of those are operating at the moment. There are 40-odd tankers laid up at the moment, and a number or those are T-2's, but there are some 70 T-2 type vessels. There are 46 tankers and the others are tanker conversions—container ships, bulk carriers, chemical carriers, colliers and so forth that make up the overall figure of 70, which are still operational.

Mr. HUGHES. Have we had any T-2 tanker conversions since 1980?

Admiral SHEAR. No T-2 tanker conversions that I can put my finger on at the moment.

Mr. HUGHES. OK. What's the average age of these vessels?

Admiral SHEAR. The average age of the T-2 tankers, per se, is about 38 years. The T-2 tanker conversions bring that down to those that have been converted over varied periods of time for the converted ships to an age of about 23 years.

Mr. HUGHES. Would it be fair to say that this type of vessel has been plagued throughout its life span with a significantly higher than average rate of structural and operational problems?

Admiral SHEAR. In its early life, at the end of the war and immediately thereafter, there were a number of problems with this type of ship. There were some structural failures—cracking and so forth, and a number of measures were taken to improve that situation, including some very heavy strapping around the vessels. There was also a special board set up called the Interagency Ship Structure Committee to address some of these problems.

I don't think there's any statistical indication since those measures were taken that the T-2's are experiencing any higher structural failures than in similar tankers of that size.

Mr. HUGHES. My time is up.

The gentleman from New Jersey, Mr. Forsythe. I will recognize you for 5 minutes.

Mr. FORSYTHE. Thank you, Mr. Chairman.

Admiral, to go back to the first question that the chairman dealt with—our first hearing did show that, the safety record of the American fleet, amazingly, despite its age, was really almost the lowest accident rate of all nations fleets.

Is that what you're trying to tell us?

Admiral SHEAR. That is a correct statement and I will provide the statistics which the Coast Guard has on our overall safety record across the board.

Mr. FORSYTHE. Would that indicate that, really, age alone is certainly not the sole criteria so far as ship problems are concerned and problems are perhaps far more connected with the maintenance and operation than it with age alone? Would that be the thrust?

Admiral SHEAR. Age itself is by no means the single criteria with regard to the material condition of a vessel.

A vessel of 6 or 8 or 10 years, if not properly maintained, can be in terrible shape. On the other hand, a vessel of 30 years, properly maintained, can be in excellent shape. I would point to the record of our major oil companies—Gulf Oil, Exxon and so forth—who take meticulous care of their vessels. Some of those vessels are pushing 30 years of age and they are in excellent condition.

On the other hand, there are some older vessels around that have not had all of that excellent maintenance over the years.

Mr. FORSYTHE. Well, that would be telling us that, really, trying to mandate a retirement age will have little effect on the safety record of our fleet, correct?

Admiral SHEAR. I don't think I'm prepared at this moment to mandate any specific retirement age, per se. I think there's got to be flexibility in that situation.

Mr. FORSYTHE. Well, there are other reasons. There are economic reasons for retirement, obviously, but we are dealing, of course, with safety, and so we've really got to find some other approach to seek to encourage good maintenance.

Would you agree?

Admiral SHEAR. I think there are a number of factors which are upon us right now that are doing just that. Among other things, I have to approve the scrapping of all vessels as they come up or are transferred to a scrap yard and so forth.

We are averaging, right now, of the older vessels, about two scrappings per month. We have actually had eight since the first of the year. I have three pending applications I've got to act on in the immediate future, and they are coming in at about two per month. So that is taking, in itself, a number of the older vessels which clearly have reached the end of their useful lives.

Now, in addition to that, we have the Port and Tanker Safety Act which is upon us and certain provisions of the Port and Tanker Safety Act go into effect or have gone into effect this summer with

regard to clean fuel oil systems and so forth. There's a continuing number of these provisions which should go into effect between now and 1986, and that also is going to take care of getting rid, if you will, of a number of the older vessels, which are not going to be worth converting. The conversion cost for meeting the Port and Tanker Safety Act requirements averages between \$2 and \$5 million per vessel.

Some of the vessels will be converted to meet the requirements. Others, which clearly are not worth it, are going to be scrapped in lieu thereof.

Mr. FORSYTHE. That goes to liquid tankers rather than bulk-carriers, doesn't it?

Admiral SHEAR. That applies to the liquid tankers. That's correct, sir.

Mr. FORSYTHE. What can be done with the bulk-carrier situation?

Admiral SHEAR. Our bulk-carrier fleet is very small in number, and we are doing a number of things at the moment to encourage an expansion of that fleet, with modern, low-speed, heavy-duty diesel-powered vessels, and small crews to get that fleet in a competitive stage in the world scene.

It has not been competitive at all in recent years. Among other things, we have just converted two of the largest American flag vessels to dry bulk ships—actually, OBO's, combined dry bulk and oilers and those ships are operating very successfully in the world market at the moment.

One of them happens to be discharging 120,000—110,000 tons of grain in Egypt. Another one has just completed such a load and is now bringing back a full load of strategic petroleum reserve oil to the United States. Now, those are 120,000-ton vessels, with a draft of 57 or 58 feet, fully loaded, and they have already cut their rates between 30 and 40 percent.

That's the type of thing, with regard to modern, effective competitive ships, we're trying to do with the overall improvement and expansion of the merchant marine.

Mr. FORSYTHE. Thank you, Admiral.

Thank you, Mr. Chairman.

Mr. HUGHES. The gentleman from Massachusetts. I'll recognize you for 5 minutes.

Mr. STUDDS. Admiral, as you know, the "Philadelphia Inquirer" and the "Baltimore News American" have both written a long series of articles concerning the age and allegedly unsafe condition of the U.S. merchant fleet.

As you also know, they focused particular attention on the condition and the continued use of T-2 tankers and converted tankers in our fleet. At our first hearing in the series, Admiral Lusk said—and I quote "that old vessels do present us with a bit of a problem, and there is no question but that owners will frequently try to get one more period of service out of them, which leaves us in a rather difficult position."

Mr. Ken Sheehan of the American Bureau of Shipping testified that, "we have too many older ships; it takes a great deal more work, a great deal more effort to be sure that an older ship is going to sea in proper condition; we have some real problems."

Both the Coast Guard and the ABS admitted that, in the case of the *Marine Electric*—which was both, as you know, an old ship and a converted T-2 tanker—that their inspectors did not, at least with respect to the hatch covers, do as good a job as they should have been expected to do.

In February of this year, Marad released a study entitled “Accelerated Domestic Bulk Fleet Rehabilitation and Modernization.” Catchy title. [Laughter.]

The purpose of that study was to enable—and I quote—“the owner-operator of the T-2 conversion to extend the useful service life of his vessel at an acceptable cost.”

The study concluded it would be either unacceptable or only marginally acceptable from an economic standpoint to completely rehabilitate and modernize the vessels, but it would be feasible, the study found, to continue the vessels in operation if they were reengined; that is, if a more fuel-efficient method of operating them were put in place.

Now, there are several things which concern me about the study. First of all, it not only accepts the concept of keeping the T-2 ships in operation. It seeks to find a technically and economically feasible strategy for encouraging it.

Second, it concludes that this will be feasible only if a complete modernization and rehabilitation effort is not made.

And, third, the study was performed, I assume—at the expense of the Maritime Administration, by Marine Transport Lines and its then-parent company, GATX, the owners of the *Marine Electric*.

Now, I wonder if you could explain to me: (1) Why the study was conducted; (2) why it was logical for Marine Transport Lines, a company with such an obvious economic interest in its outcome, to be so involved in its performance; and (3) Whether and, if so, how the results of the study will be weighed against what seemed to me—and I think the members of this subcommittee who heard the hearing last week will agree—to have some extraordinarily serious questions of safety.

Admiral SHEAR. I'll be happy to address what you have had to say in detail, and I'll do so, Mr. Studds.

First of all, let me say that I work very closely with the Coast Guard personally and with my staff and with American Bureau of Shipping, personally and with my staff, on all aspects of American shipbuilding and American ship maintenance.

They are thoroughly professional organizations and they know their business. There isn't any question that we have too many old ships still under American documentation. And it is the policy of this administration to improve and expand and modernize our American merchant marine just as rapidly as we can and that means encouraging the dropping of as many of these older ships as we can as rapidly as possible.

Now, let me address the study which you have brought up. I guess that study has come up 15 or 20 times in recent weeks.

First of all, that study was initiated long before I came on the scene. The actual initiation had good intentions. It was to look to see if there were realistic way to make the older ships more economical by re-engining and some other significant modifications, to

see if this was worthwhile, and to see whether an adequate viable product would be forthcoming.

I looked over this study as soon as I got my hands on it, when it was delivered here a few months ago, and asked the same questions that you have asked me.

I asked why this study was initiated at all. We were looking at ships that, at the time of initiation which is over 3 years ago, were better than 30 years of age. Did we really think it was realistic to be spending the reengining costs and other modifications for vessels of this type?

The case is very marginal. Under no circumstances am I going to support anything that encourages reworking or rebuilding of these extremely old ships, reengining, and that study has gone to the bottom drawer and it will never see the light of day.

The gentleman who ran the very excellent series of articles in the Philadelphia Inquirer called me on that subject. He got a copy almost as soon as I did, and he asked me what my response was and I said: My one-word response was the whole thing was "stupid." That study will not have any further application with regard to modernization of the American merchant marine.

Mr. STUDDS. Well, you sure know how to take the wind out of somebody's sails. [Laughter.]

I think that's a wonderful answer. I think what you just did was put in the typically blunt language of a former sea captain.

That's what the frontispiece of the study says anyway—and just to make everybody feel better, I'll read how the study begins, as I suspect you know. I think you just buried it with the same language with which it began.

It says at the very beginning:

Neither the United States nor the Maritime Administration nor any person acting on behalf of the Maritime Administration makes any warranty or representation, express or implied, with respect to the accuracy, completeness or usefulness of the information contained in this report.

[Laughter.]

Thank you.

Mr. CARPER. Mr. Chairman.

Mr. HUGHES. Five minutes. The gentleman from Delaware.

Mr. CARPER. Admiral, welcome.

I'd like to offer a couple of questions that relate to, I guess, communications and reporting procedures, particularly as they tie into H.R. 3486.

First of all, Admiral, section 3 of H.R. 3486 authorizes the Secretary of Transportation to finance up to 50 percent of the cost of satellite systems on vessels required to report to an entity called Usmer.

One of my first questions is going to be: What is USMER?

Admiral SHEAR. I'll let Mr. Lockland respond to the exact title of Usmer.

Mr. LOCKLAND. Mr. Carper, USMER is an acronym for vessel locator filing system.

Mr. CARPER. Thank you.

Second question: What are the national defense features that these systems have?

Admiral SHEAR. We actually have two systems that are now being consolidated into one. They will actually be effective as one consolidation here within a matter of weeks. We're hoping to have it by the 1st of September and that's the USMER system and the AMVER system.

Now, the USMER system is to provide the Maritime Administration with the capability for defense purposes of keeping track of American ships on the high seas, so that we will know where they are when they are needed to be marshaled for emergency use at the direction of the President or any wartime situation that may arise. And that system requires reporting their position through a variety of worldwide radio stations every 48 hours. That is purely for national defense purposes and I have the responsibility for operating and maintaining that reporting system.

Now, that is now being combined with the Coast Guard AMVER system, and my responsibility will remain in keeping track of the vessels.

It will now also tie into the safety aspect with regard to the reporting system for ships on the high seas.

Mr. CARPER. Could you explain that tie-in, particularly with regards to the safety aspect of life at sea?

Admiral SHEAR. Yes; I'll let Mr. Lochland again go into the details.

Mr. LOCKLAND. The USMER system and AMVER system had similar reporting requirements in that the at-sea positions of vessels are reported to Government agencies, but their goals are different in that the USMER system is required for national defense purposes and the AMVER system is required for safety of life at sea.

It was perceived some time back that, in order to relieve a burden of dual reporting, the systems could be combined. And so, several months back, a memorandum of agreement was signed between the Maritime Administration and the Coast Guard, directing that those two systems be combined.

The Coast Guard has since proceeded with its installation of computer and other systems equipment at the AMVER center, located at Governors' Island, New York, and will be in a position shortly to begin the single operation of mandatory AMVER system.

Under this system, the foreign trading vessels flying a U.S. flag will be required to report to AMVER upon their departure, every 48 hours at sea and upon certain other conditions, such as a change of destination and things of that nature, directly to the AMVER system at Governors' Island, New York.

The primary advantage of this combined system will be that vessels will have a much easier time on delivering communications into the network. Under the USMER system, the communications stations used by the U.S.-flag merchant vessels were limited to the nine Coast Guard stations and two Navy stations, which are located around the world.

Under the AMVER system, the vessels will be able to deliver their message traffic through approximately 110 coastal radio stations involved with safety and life at sea.

Mr. CARPER. Is it safe to say that the satellite systems on the vessel will enhance safety at sea?

Mr. LOCKLAND. No question about that.

Mr. CARPER. A followup question: Do you think there should be regulations which allow require vessel owners to meet communication equipment requirements by installing in Marsat-approved terminals?

And could you take just a minute to talk about Marsat.

Admiral SHEAR. Let me talk a little about Marsat if I may.

I was involved in the Maritime Satellite business in my Navy days, as well as monitoring it closely since I've had the maritime responsibility.

There isn't any question that maritime satellites are a major step forward in improving maritime communications on the high seas.

Let me just talk about the Marsat system, if I may. There are three orbiting satellites for this system—one over the Atlantic; one over the Pacific; one over the Indian Ocean—which permit direct line-of-sight communications with any vessel on the high seas, wherever it is.

This is a vast improvement over the old CW—continuous wave, high-frequency systems, which even under the best of circumstances give you various atmospheric conditions where you can't always get through to a station.

There isn't any question that the Marsat system is a vast improvement in the overall art of communications at sea.

Now, that is not installed in all ships at the moment. It's becoming more and more common. I think the number is 186, is it not?

Mr. LOCKLAND. 196.

Admiral SHEAR. 196—at the moment?

The cost of these installations is coming down dramatically. It is now down below \$50,000 a set and there isn't any question that Marsat, per se, is probably going to be the primary means of maritime communications on into the indefinite future.

Mr. CARPER. One last question. In your opinion, what are the main reasons that vessels do not have satellite systems?

Admiral SHEAR. Well, it's a relatively new system. The prices were quite high to start. The old CW system had been with us for many decades.

It's a process of updating and improving and clearly that's happening quite rapidly, much more rapidly than we even anticipated.

Mr. CARPER. All right. My time has expired. Thank you.

Admiral SHEAR. Thank you.

Mr. HUGHES. Admiral, what is your present position with regard to the provisions of H.R. 3486, the bill introduced by the chairman of this full committee?

Admiral SHEAR. I wholeheartedly support the objectives of the bill. I think it's a major step in the right direction. It is still being reviewed within the Department of Transportation. I'm not prepared to endorse every single provision, but I think the bill is a very good start toward the major issue of improving safety at sea.

Mr. HUGHES. But, in principle, you agree with the thrust of the bill?

Admiral SHEAR. I wholeheartedly agree with the thrust of the bill.

Mr. HUGHES. Are there any specific areas that give you any difficulty?

Admiral SHEAR. Well, as I say, there are certain areas that have not been thoroughly reviewed with a position taken at the Department of Transportation, and I wouldn't pick out any particular one from all of them.

Mr. HUGHES. When do you expect the Administration to take a position on the legislation?

Admiral SHEAR. In the very near future.

Mr. HUGHES. I gather, from your testimony, that you do support the requirement that vessels report within 48 hours.

Do you also support sanctions if, in fact, they fail to do so?

Admiral SHEAR. Yes; now, we have 48-hour reporting. Now, in the provisions of the bill, there is an ownership reporting requirement also. It is duplicative but I have no particular objection to such a reporting. I think it's a plus.

Mr. HUGHES. My question is relative to sanctions. Do you also support sanctions being imposed for those vessel owners or managers that do not report?

Admiral SHEAR. With regards to specific sanctions on owners, I think the Coast Guard would say—and I'll let them speak for themselves—I believe they already have—that there ought to be some flexibility with regard to actually imposing sanctions on the vessel owners.

Mr. HUGHES. Now, the Coast Guard can speak for themselves, but my question is, How do you feel about sanctions? Do you support the concept of imposing sanctions where they fail to do so?

Admiral SHEAR. I'm not prepared to say that we should impose sanctions on owners at the moment.

Mr. HUGHES. During our previous hearing, the Coast Guard and the American Bureau of Shipping both testified that they do not inspect older vessels any more frequently than newer vessels; the Coast Guard usually requires a vessel drydock inspection every 2 years.

Do you believe that it would be wise at a minimum to prohibit the Coast Guard from permitting older vessels to delay their scheduled drydock beyond that 2-year period?

Admiral SHEAR. I would not support any general waiver for drydocking delays. I think drydocking every 2 years is a very realistic figure for any merchant vessel today.

Mr. HUGHES. Well, you know, it's not that unusual for vessels to request postponement of their drydock, older vessels in particular. And, in some instances, perhaps drydocking might have averted some of the tragedies we've seen.

What is your general feeling with regard to drydocking? Do you think it would be good policy to, in fact, discourage extensions on drydocking beyond the 2-year period?

Admiral SHEAR. I certainly would not encourage any general waivers, and I don't think it's Coast Guard policy to encourage any general waivers. I think waivers should be the rare exception for mandatory drydocking every 2 years.

Mr. HUGHES. Do the members have any further questions?

The gentleman from New Jersey.

Mr. FORSYTHE. Thank you, Mr. Chairman.



Just one followup question, Admiral. The chairman has discussed this question of sactions for reporting but, as we were discussing in my earlier round—that the safety-related maintenance apparently is really the one area where we need more encouragement for the owners and operators.

Would you have any suggestions as to how we can do something to encourage owners—operators to place greater emphasis on safety-related maintenance? Is it an area where sanctions are appropriate?

Admiral SHEAR. Well, I think strict application of the Coast Guard inspection requirements, very thoroughly carried out, will provide the maintenance as it should be. Again, I can't say that I can support any specific sanctions on the owner of a vessel at the moment, but I would wholeheartedly support all of the current Coast Guard requirements for the maintenance and inspection and safety of vessels at sea.

Mr. FORSYTHE. We'd be sure that vessels should not go to sea if there is a safety deficiency at the time it goes to sea.

Admiral SHEAR. Now, under our current laws and regulations, we don't have any authority to actually take action against the owner. The Coast Guard has authority under any questionable areas of maintenance or repair to withdraw the certificate of safety with regard to the vessel, and it's quite appropriate to do so if there's any question.

Mr. FORSYTHE. Well, I guess that kind of leaves us with thorough inspections as being the only route to really make sure that we do have compliance with safety measures.

Admiral SHEAR. I think, if I may say so, Mr. Forsythe, the overall work which the American Bureau of Shipping and the Coast Guard does in their regular reviews of maintenance and repair of ships across the board is very good.

Now, this is not to say that there can't always be exceptions. But I think that the system as established at present is quite good.

Mr. FORSYTHE. Unhappily, we've had two relatively recent instances, both off the middle Atlantic coast, of 2 ships that apparently got through something or other and got to sea.

Admiral SHEAR. I can't argue with that.

Mr. FORSYTHE. Both the *Poet* and the *Marine Electric*.

Admiral SHEAR. I can't argue that point at all, and there isn't any question that they are older ships. I might say again that everything that we are trying to do now is to modernize the fleet and get rid of those older ships as rapidly as we can.

Mr. FORSYTHE. Let's hope we can do it before we have any more problems.

Thank you, Mr. Chairman.

Thank you, Admiral.

Mr. HUGHES. The gentleman from Massachusetts.

Mr. STUDDS. Thank you, Mr. Chairman.

Admiral, I think what we're all wrestling with here is the dispersion of responsibility. The Coast Guard has a responsibility. The American Bureau of Shipping has a responsibility. The crew and the captain have a responsibility.

There seems to be emerging general agreement that, notwithstanding all of that, the ultimate responsibility rests, in some very

real ways, with the owners of the vessels. I think we are trying to find to what extent that responsibility is clear, ultimate and accepted and with serious enough sanctions to see to it that it has some meaning.

At our earlier hearing, we received testimony suggesting that marine safety would be enhanced if we were to significantly increase or eliminate entirely the limitation on shipowner liability in cases involving personal injury or death.

It is suggested that such a change would cause ship-owners to exercise greater care in maintaining and operating their vessels.

What is your reaction to that kind of a proposal?

Admiral SHEAR. Well, I don't know that I could really support that kind of effort. I think we need discretion to deal with such situations. There has been discussion about vastly increasing the insurance requirements, and so forth. I can't say that that's the way to go.

Mr. STUDDS. Let me just say that I don't know how that raises a question of discretion. It simply is a question of the limitations on liability in the event that there is a loss of life—in the law, we are talking about here.

On a similar tack, also at our earlier hearing, we received testimony, as you probably know, suggesting that a mechanism be found for assessing sanctions against ship-owners, in a manner analogous to that used to punish licensed officers and crew.

Does any means presently exist, for example, for the Coast Guard or the Maritime Administration to bar ship owners with particularly poor safety records from owning or operating U.S.-flag ships?

Admiral SHEAR. At the moment—as I meant to get across in response to Mr. Forsythe's question—there is nothing which the Coast Guard and the Maritime Administration have under the law to take action against the owners themselves.

The Coast Guard can take action by the withdrawal of safety certificates, which will prevent the vessel from leaving port.

Mr. STUDDS. Do you think there ought to be such mechanism or such action available to you?

Admiral SHEAR. I'm not prepared to say that we should have something to take action against the owners at the moment. I think we need discretion with regard to the capability of doing so.

Mr. STUDDS. But do you have under the law that discretion to bar, if you so chose to exercise that judgment, shipowners with outrageous records from operating under the U.S. flag?

Admiral SHEAR. We do not have that authority at present.

Mr. STUDDS. Do you think you should?

Admiral SHEAR. I'm not prepared to say that we should revise the law to have that specific authority at this time.

Mr. STUDDS. If it's possible, given the way things work, I think the subcommittee would like a position from the Administration on that question, if you could set that in motion.

Thank you.

Mr. HUGHES. In that connection, I wonder if you could also submit for the record, Admiral, instances where the safety certificate has been lifted?

Admiral SHEAR. Would you repeat that, Mr. Hughes?

Mr. HUGHES. Yes; I'd like to also for the record to have you submit those instances where the safety certificate has been lifted on owners. Do you know of any offhand? Do you know of any instances where the safety certificate has been lifted?

Admiral SHEAR. I'll have to provide that for the record. I'll review that with the Coast Guard and provide it for the record, sir.  
[The following was received:]

Information for the record furnished by Adm. Harold E. Shear, Maritime Administrator, Department of Transportation.

Enclosure (1) responds to both questions concerning the safety record of U.S. vessels in comparison to vessels of other nations and is based on the most complete and meaningful data available.

Enclosure (2) is a listing obtained by a search of the Interim Marine Safety Information System for vessels showing the code for "Certificate of Inspection Withdrawn" in their vessel boarding histories. While this is a relatively new system and only yields post-1980 data, it is the only central source of such information.

**U.S. AND WORLD-WIDE  
MERCHANT VESSEL CASUALTIES  
AND VESSEL AGING**

*prepared by*

MARINE SAFETY EVALUATION BRANCH  
OFFICE OF MERCHANT MARINE SAFETY  
U.S. COAST GUARD HEADQUARTERS

OCTOBER 1983

MERCHANT VESSEL CASUALTY ANALYSIS

The purpose of this paper is to present a quick overview of the casualty record of the U.S. merchant fleet, compare our casualty record with some foreign fleets, and to look at vessel aging in relation to vessel losses. This analysis will be shown by the use of loss rates; i.e., vessel losses compared to vessel population. Casualty information used in this analysis was derived from Lloyds Register of Shipping Quarterly Casualty Returns and Annual Statistical Summaries. Vessel population data used in determining the rate information was obtained from the annual Lloyds Register of Shipping Statistical Tables. As defined by Lloyds, the term, Total Loss, "... refers to a merchant ship which, as a direct result of being a marine casualty, has ceased to exist, either by virtue of the fact that the ship is irrecoverable or has subsequently been broken up". The various categories of "casualties" which a vessel could suffer include, foundering, collision, fire, wrecked (grounding or stranding), missing (disappearance), or lost (for lack of sufficient information could not be categorized).

What has been our casualty record? It depends upon the entering parameters that one chooses to use, including the size and type of vessels to be scrutinized. For instance, between 1976 and 1980, the loss rate for the U.S. fleet was approximately 5 vessels per 1000 vessels when looking at vessels 100 gross tons and above. If instead, one examines losses for vessels greater than 500 gross tons, the rate was 2.4 vessels per 1000 vessels, a significant difference.

Greater insight into understanding this difference can be gleaned from Charts 2 and 3. Looking at Chart 2, one can see that fishing vessels and towing vessels account for about 68% of the fleet. Between 1976 and 1980, 122 U.S. vessels over 100 gross tons were lost. Fishing and towing vessels accounted for 81% of these losses, (Chart 3). Further, of the 122 losses, 106 were between 100 and 500 gross tons.

Although it is not readily discernible from these charts, it is important to note that 77% of the U.S. fleet is less than 500 gross tons. This is directly attributable to the large numbers of fishing and towing vessels in our fleet. Compared to several of the world's major fleets, this is a relatively high percentage of small vessels. In way of comparison, only 2.6% of Liberia's fleet is less than 500 gross tons. Consequently, if one compares the U.S. casualty rate with foreign fleets and does so for vessels down to 100 gross tons, the U.S. rate may reflect higher losses because of the large number of small vessels in our fleet.

How do our rates compare with foreign fleets? Chart 4 shows the U.S. loss rate alongside several foreign fleets and the world average for 1979 and 1980. You can see that our losses compare favorably with those of other countries.

Another aspect to consider when comparing the above rates is that of vessel aging and the effects of aging on vessel casualties. This is an important consideration from our point of view since our fleet is relatively old.

Thirty-eight percent of the U.S. fleet over 500 gross tons is 30 years old or older. Again, using Liberia as a comparison, only 0.2% of the Liberian fleet is 30 years old or older.

The Marine Safety Evaluation Branch (G-MMI-3) has been studying this aging concern in greater detail. World-wide losses for vessels 500 gross tons and above have been broken down by age groups and shown in Chart 5. Notice the dramatic increase in the loss rate as age increases. Originally, U.S. losses were to have been plotted alongside these world losses for comparison. However, for these two years, 1979-80, there were only 6 losses of U.S. vessels of 500 gross tons and above. It was decided that possibly a better representation of U.S. losses could be developed for a longer period, 1976-80. These losses, totalling 16, were compiled and plotted on Chart 6. Two important points can be derived from this chart; (1) as indicated earlier, the U.S. has few losses of "large" vessels, and (2) the loss rate of our older vessels is about 1/3 of the world average for the same age group. In fact, the rate for our older vessels compares favorably with younger age groups for the world fleet on Chart 5.

Refer back to Chart 5 for a moment. The losses depicted include "constructive total losses"; i.e., a vessel sustained some magnitude of damage and as a result was scrapped. One might assume that the older the vessel, the less damage it would have to sustain before it was scrapped, much like an older automobile when it is involved in an accident. Other factors, such as market demand for the vessel's services, can also impact the decision to scrap the vessel. The question arose as to whether the information on Chart 5 was

an accurate representation of aging versus losses since the decision to scrap a vessel is often a subjective one based upon these and other factors. It was decided to look only at two kinds of casualties, foundering and missings, both casualties with less subjective input as to whether the vessel was a total loss. The results of this analysis are shown in Chart 6. Notice the similarity with the information shown on Chart 5. It does appear that age is a factor in vessel losses.

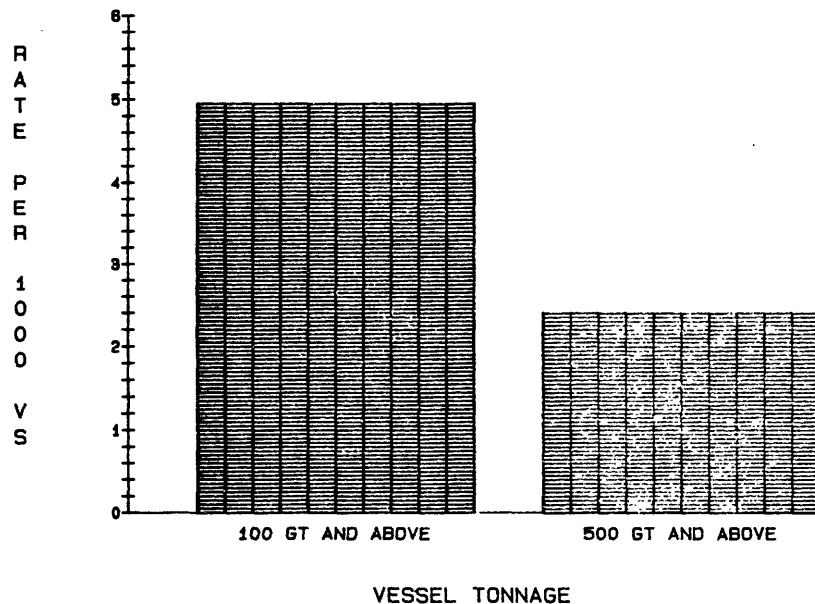
In summing up, it should be pointed out that the analysis is not yet complete. As soon as the information becomes available, the analysis will be updated for 1981 and succeeding years. The U.S. fleet does have losses. However, when compared with other fleets, our losses are not excessive, and our older vessels appear to have sustained much lower casualty rates than foreign fleets.

Attachments:

- Chart 1: Casualty Rates For U.S. Vessels 1976-1980
- Chart 2: Composition of U.S. Merchant Fleet In 1982 Over 100 Gross Tons
- Chart 3: Losses Of U.S. Vessels Over 100 GT By Type of Vessel 1976-1980
- Chart 4: Loss Rates For Vessels 500 GT And Over 1979-1980
- Chart 5: World Vessel Losses In Age Groups Vessels Over 500 GT 1979-1980
- Chart 6: U.S. Vessel Losses In Age Groups Vessels 500 GT And Over 1976-1980
- Chart 7: World Wide Foundering Or Missing Vessels 500 GT and Over 1979-1980



## CASUALTY RATES FOR U.S. VESSELS 1976 - 1980

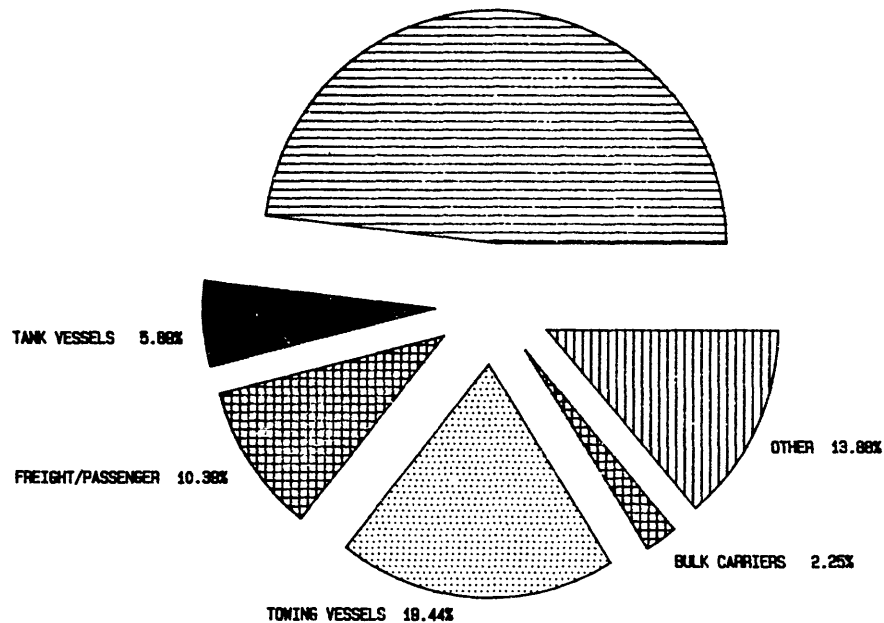


CASUALTY DATA FROM LLOYD'S CASUALTY RETURN  
VESSEL POPULATION FROM LLOYD'S STATISTICAL TABLES

PREPARED 18 MAY 1983  
CRANFORD AND HART

COMPOSITION OF U.S. MERCHANT FLEET IN 1982  
OVER 100 GROSS TONS - BY TYPE OF VESSEL

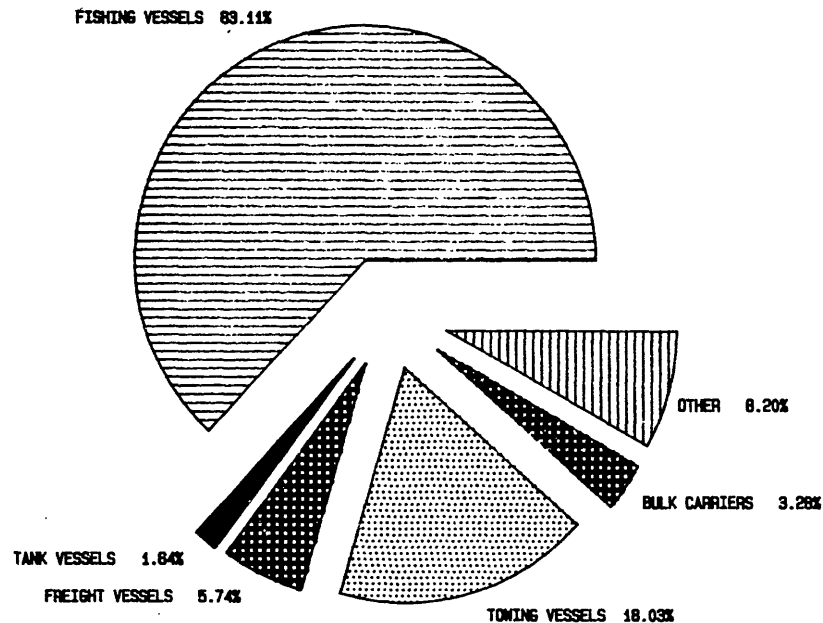
FISHING VESSELS 48.15%



CASUALTY DATA FROM LLOYD'S CASUALTY RETURN  
VESSEL POPULATION FROM LLOYD'S STATISTICAL TABLES

PREPARED 18 MAY 1983 \*  
CRANFORD AND HART

LOSSES OF U.S. VESSELS OVER 100 GT  
BY TYPE OF VESSEL 1976 - 1980

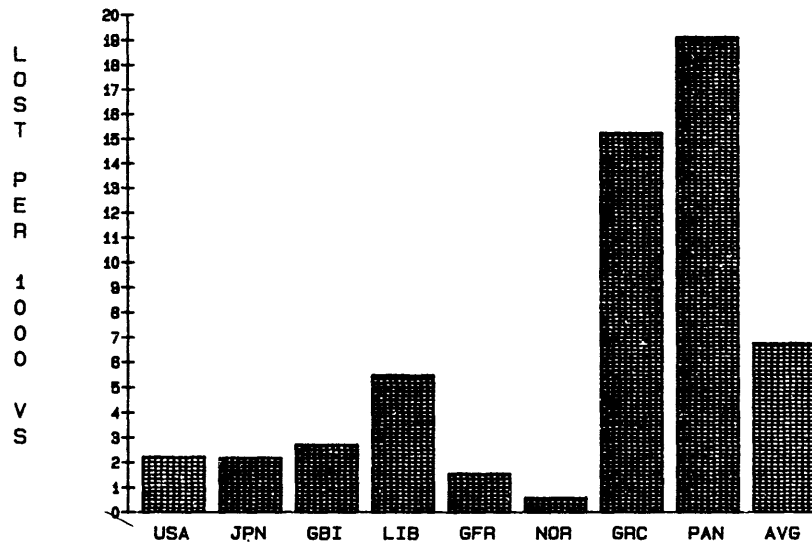


CASUALTY DATA FROM LLOYD'S CASUALTY RETURN  
VESSEL POPULATION FROM LLOYD'S STATISTICAL TABLES

PREPARED 18 MAY 1983  
CRANFORD AND HART

# LOSS RATES FOR VESSELS 500 GT AND OVER

1979 - 1980

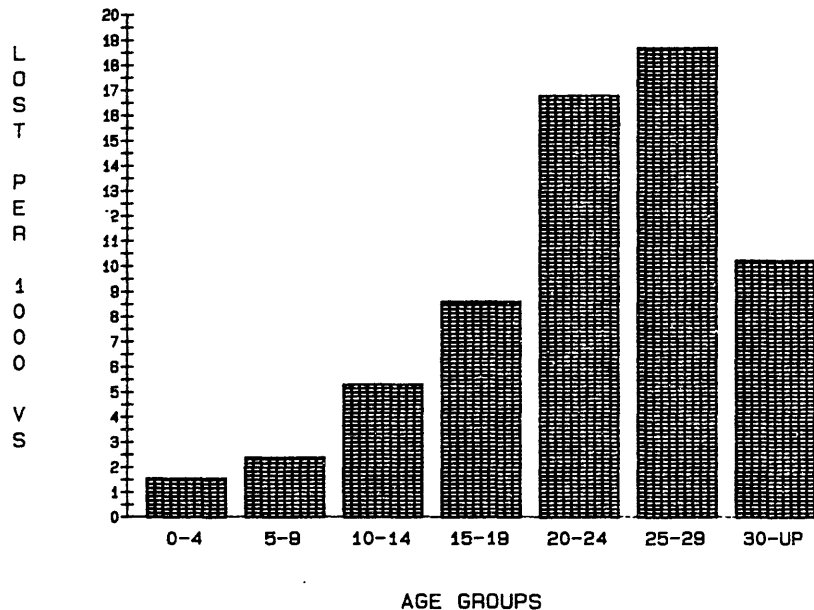


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CASUALTY DATA FROM LLOYD'S CASUALTY RETURN  
VESSEL POPULATION FROM LLOYD'S STATISTICAL TABLES

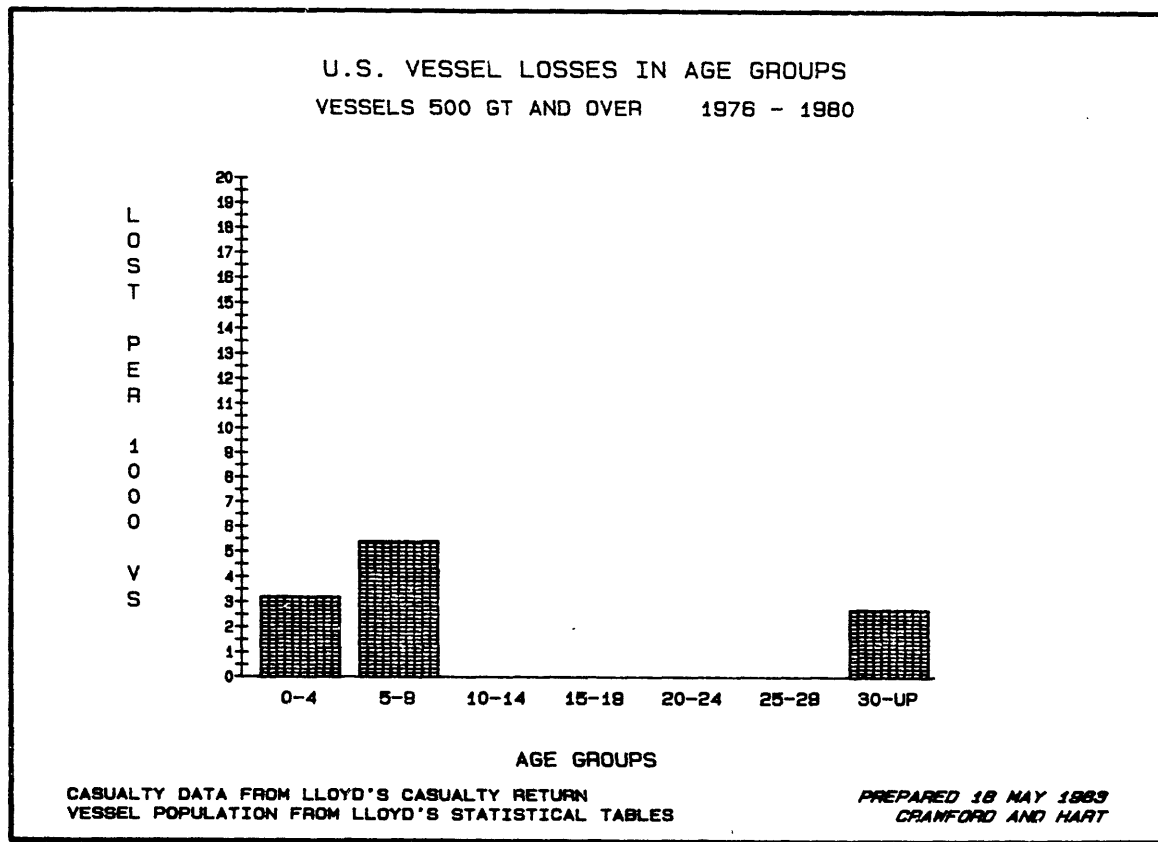
PREPARED 18 MAY 1983  
CRAWFORD AND HART

WORLD VESSEL LOSSES IN AGE GROUPS  
VESSELS 500 GT AND OVER IN 1979 AND 1980

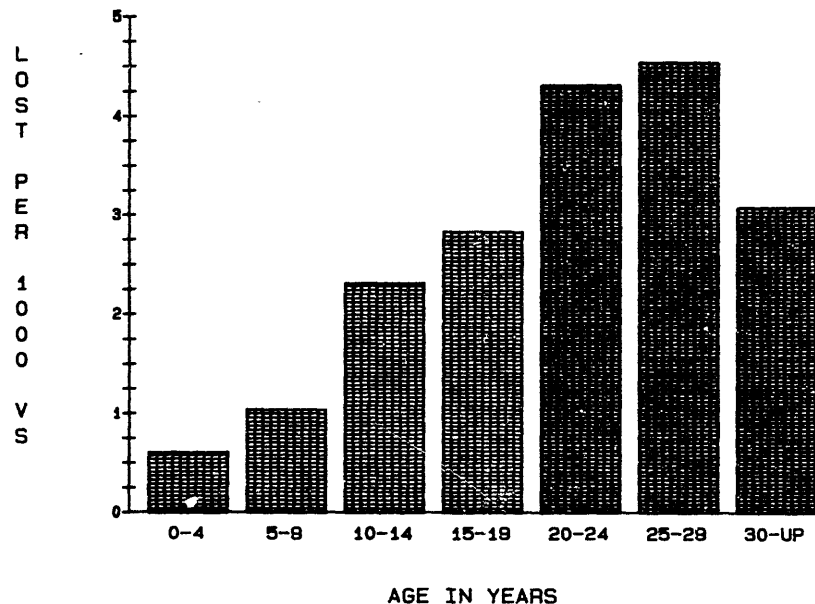


CASUALTY DATA FROM LLOYD'S CASUALTY RETURN  
VESSEL POPULATION FROM LLOYD'S STATISTICAL TABLES

PREPARED 18 MAY 1989  
CRANFORD AND HART



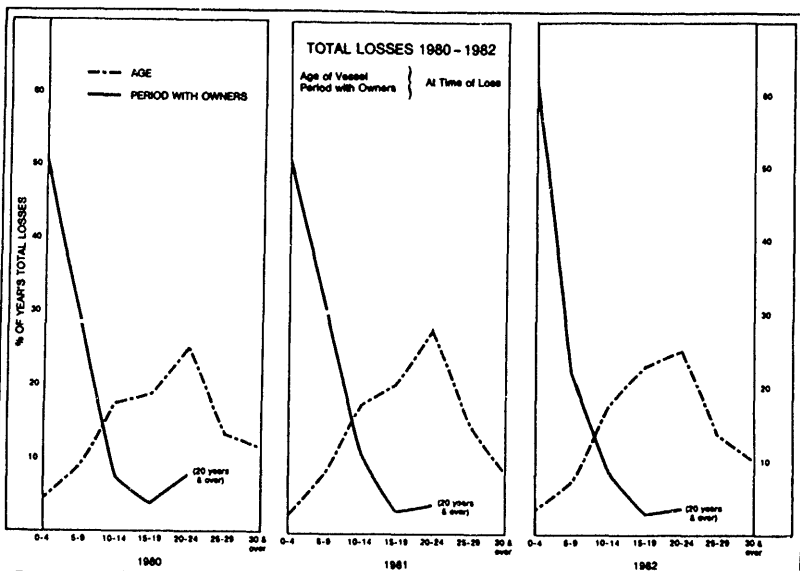
WORLD WIDE FOUNDERINGS OR MISSING  
VESSELS 500 GT AND OVER IN 1979 AND 1980



CASUALTY DATA FROM LLOYD'S CASUALTY RETURN  
VESSEL POPULATION FROM LLOYD'S STATISTICAL TABLES

PREPARED 5 MAY 1983  
CRAWFORD AND HART

## MARINE INSURANCE



### Ownership/management factors take on greater significance in hull loss evaluation

In 1982, over 60 per cent of the total losses falling on the marine market involved vessels which had been with their owners/managers for less than five years. This was one of the most significant points to emerge from an analysis of last year's casualty statistics by Institute of London Underwriters' chairman Tony Nunn at the recent International Union of Marine Insurance Conference in Florence. The figures under examination were those produced annually by the Liverpool Underwriters' Association, which relate to all ships of 500 gross tons and over, and which have rightly come to be regarded as the definitive work on the subject.

Mr. Nunn told the IUMI meeting that, while the 60 per cent figure was undoubtedly high, it also exceeded 50 per cent in both 1980 and 1981. "Would it be an over-simplification if we compared this situation to car-owning?" asked Mr. Nunn. "Most of us own a motor car. How many of us feel that, after about three years, be it new or second-hand, things start to go wrong? If you are happy with your purchase you either accept its idiosyncrasies and oddities and are aware of them when you drive, or you sell it. Even more relevant, in some countries the car is subject to some form of annual survey or condition report. How many say '... Get rid of it'. 'Sell it'. 'It won't pass'?"

Noting that the same operating characteristics apply to the

shipowner, who has to contend with classification and registration requirements and various IMO statutory regulations, Mr. Nunn pointed out that an owner can certainly circumvent some of these providing there is no change in flag. If a vessel's various surveys are up-to-date, he added, the new owner may have to accept various problems which may not have been reported either to the classification society or to the regulatory authorities. Thus, said Mr. Nunn, the new owner can take on the problems of the previous operators.

Pointing out that when there is a change of flag there are safeguards and a new examination by the registration authority, Mr. Nunn said he would like to see ships surveyed by approved surveyors every time they change hands, and a warranty issued to that effect. At present, he said, many underwriters content themselves with the warranty that existing class is maintained. Mr. Nunn, whilst acknowledging the importance of management and owners' records, advocated a more stringent approach which called for a warranty that all damage, defects and accidents had been reported to the appropriate authorities.

#### Increased settlement costs

Overall, the Liverpool Underwriters' statistics show that, whilst losses were down on the previous year, the actual cost of settlements in 1982 was higher. The trend observed in recent years indicating that losses are occurring increasingly more often in the smaller category of vessels was carried forward into 1982. Looking at the losses as related to premium, Mr. Nunn asked whether the total loss content of underwriters' hull premiums is anywhere near adequate bearing in mind the exposure. The clear implication was that it was not.

*Continued on Page 19*



## MARINE INSURANCE

## Hull Casualties

(Continued from Page 17)

A comprehensive LUA analysis of the current lay-up situation reveals that the amount of laid-up tanker tonnage has increased tenfold since January, 1981, from 3.7m tons to just under 38m tons in June, 1983. Mr. Nunn noted that, whilst there was a levelling-off in the bulk and combination carrier class in the first six months of 1983, a further 100 vessels in the general class entered lay-up during the same period. The figures show a fluctuation in lay-up locations over a five-year period ending June 1983, all areas with the exception of Scandinavia and the Americas showing an increase of something like 250 per cent in the number of vessels laid up when compared with June 1978. Scandinavia, after fluctuating in the intervening years, is now very similar to its position five years ago, while the Americas has trebled its amount of laid-up tonnage in the last five years. The figures suggest that the Persian Gulf is the most popular location for laying up tankers.

Mr. Nunn said the statistics indicated the continued escalation of owners laying up their tankers of 140,000 g.r.t. and over. Since June 1978, he said, there have been between 131 and 143 afloat each year, this inactive section being at its lowest in 1980 when it was 5 per cent and at its highest in June, 1983, when it peaked at 56 per cent. Noting that the laid-up percentage is negligible up to 20,000 g.r.t. and that there has been a minimal reduction in the number of vessels laid up in the category up to 100,000 d.w.t., Mr. Nunn asked "Is this then the tanker size of the future to which owners will be looking?"

So far as the age of the vessel is concerned, the 1982 figures show a continued reduction for the two older age groups — 15 to 25 years and over 25 years. But, said Mr. Nunn, the average for the five-year period 1978-1982 is still considerably worse than for the 1973-1977 period, and there has been an alarming

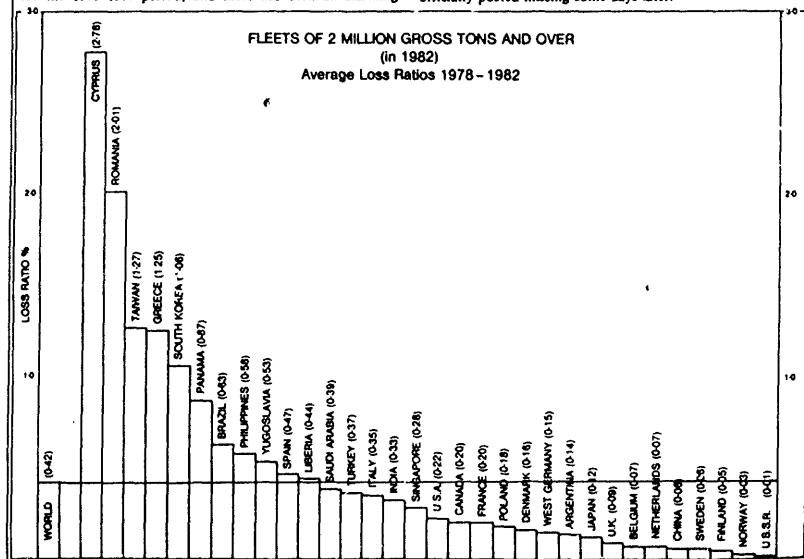
increase in the incidence of total losses in all the major vessel categories during the last ten years.

## Causes of loss

Turning now to the various causes of loss, Mr. Nunn noted a slight overall improvement in tanker losses due to stranding/collision/contact and weather/fouling, but a significant worsening in the most recent five-year period with regard to losses due to fires and/or explosions. In the bulk/combination carrier category, the latest five-year period shows the marked vulnerability of this type of vessel to the stress of weather and/or foundering. In the general category, the most recent five-year period shows little change with regard to fire/explosion and stranding etc., but again there is a deterioration in the loss ratio resulting from weather/fouling.

The LUA figures show that the number of national fleets whose average loss ratio exceeds that of the world fleet (0.42 per cent) now stands at 28, as opposed to 26 last year; Saudi Arabia and Egypt are no longer on the list while Taiwan, Mexico, Peru and Cuba appear in 1982. Perhaps of greater significance is the chart listing those major fleets of 2m g.r.t. and over, which shows a total of eleven fleets which are the wrong side of the world loss ratio — nine are the same as in 1981 but have now been joined by Cyprus and Taiwan on the wrong side of the line, both in 1982 having more than 2m g.r.t. afloat. Mr. Nunn pointed out that the majority of those fleets with the poorest results are still increasing their tonnage afloat, a sobering thought for hull underwriters.

The "Unexplained Losses" category showed just one addition in 1982, the 19,505 g.r.t. Panamanian ore carrier *Orient Treasury* which left Uddaval for Port Said in February 1982 with a cargo of chrome ore. There was no subsequent report and she was officially posted missing some days later.



Vessel	Official Number	Vessel Type	Port	Occasion	Date
Golden Run	DN279450	Passenger	Baltimore MD	COI	810224
Honay Bee	DN589020	Passenger	Baltimore MD	COI	810306
Pasadena	DN248894	Tank Ship	Baltimore MD	D/D	821122
Port Service	DN290034	Tank Ship	Baltimore MD	COI	810316
Smokay Joe	DN249938	Passenger	Baltimore MD	Mid-period	810608
Cova Explorer	DN248127	Tank Ship	Boston MA	Structural	811201
Consumers Power	DN226276	Bulk Ore	Cleveland OH	D/D	830808
William Clay Ford	DN266029	Bulk Ore	Duluth MN	Vital Mach	820927
Chipper	CG002535	Tank Barge	Hampton Rds VA	COI	820602
Hampton Express	DN588275	Passenger	Hampton Rds VA	Unknown	820916
Loveland 6	DN280302	Freight Barge	Hampton Rds VA	Casualty	820322
Star 7	DN591611	Tank Barge OD	Hampton Rds VA	Structural	830418
Acadian Sailor	DN626260	Freight Ship	Houston TX	Unknown	820602
BMT 2601	DN262899	Tank Barge	Houston TX	D/D	820217
ETT 101	DN508212	Tank Barge OD	Houston TX	Structural	820629
Exxon Baltimore	DN282272	Tank Ship	Houston TX		811211
AO 32	CG006437	Tank Barge	Huntington WVA	COI	820324
Check			Huntington WVA	COI	820414
OEL 1009			Huntington WVA	D/D	830114
Hines 264	DN279909	Tank Barge	Memphis TN	COI	820329
Miss Holiday Inn	AR50366A	Passenger	Memphis TN	Vital Mach	811019
NBC 965	DN262417	Tank Barge	Memphis TN	Casualty	821230
MBC 966	DN262436	Tank Barge	Memphis TN	Casualty	830114
SS 2325 B	DN262757	Tank Barge	Memphis TN	Mid-Period	820225
Point Julie	DN246993	Tankship	Miami FL	Mid-Period	820407
USNS Hudson	DN538811	Tankship	Miami FL	COI	830131
Bern-Ev-Dine			Nashville TN	Lifesaving	810306
Good Ship Lollypop	DN249795	Passenger	Nashville TN	Spec. Exam	820823
Hines 424	DN568176	Tank Barge	Nashville TN	Casualty	830208
MFC 1			Nashville TN		810126
Morania 130	DN255090	Tank Barge	New York NY	Structural	811228
Paul Gordon			New York NY	Structural	811203
Sea-Land Producer	DN552819	Freight Ship	New York NY	Vital Mach	830813
UMC 325			Pacucha KY	D/D	810317
C.I.T. 2015	DN517517	Tank Barge	Port Arthur TX	Structural	810905
Emma McCall	DN565255	T-Boat	Port Arthur TX	Structural	810925
GT 106	DN560488	Tank Barge	Port Arthur TX	COI	810522
Morania Barge 190	DN291292	Tank Barge	Port Arthur TX	D/D	830617
Panama	CG001263	Tank Barge	Port Arthur TX	Structural	820705
Penrod 83	DN605536	MODU	Port Arthur TX	Int in lieu	830225
Mobil Chicago	DN265762	Tank Ship	Portland ME	Structural	830820
Delta Queen	DN265762	Passenger	St. Louis MO	Casualty	820518
Quinsippi Queen	DN514736	Passenger	St. Louis MO	Casualty	820712
SC No 1101			St. Louis MO	D/D	830127
Lewis Wilson Foy	DN592377	Bulk ore	Sturgeon Bay WI	D/D	820721
Ohio	DN298500	Tank Barge	St. Paul MN	Spec. Exam	830602
Penny	DN295108	Freight Ship	Tampa FL	D/D	830506
Rainbow II			Tampa FL	Structural	838324

ENCLOSURE<sup>2</sup>

Mr. HUGHES. That would be fine.

Any further questions?

The gentleman from Delaware.

Mr. CARPER. Thank you, Mr. Chairman.

Two more quick followup questions, again, dealing with communications.

Do you have any idea, Admiral, how much it costs a vessel owner to report to USMER or to AMVER?

Admiral SHEAR. You mean the actual cost to send a message. Well, to send a message to the Navy or the Coast Guard communications stations, is essentially nothing. Now, if they were to send a message through a private communications station, it's a very modest amount—a few dollars a message for a short message.

Mr. CARPER. OK.

Also, why has MarAd never enforced the requirement to report to USMER every 48 hours?

Admiral SHEAR. That's a very difficult thing to enforce. First of all, it's a very difficult thing to prove that a vessel did not attempt to get a message through. Actually, the percentage today is very high. It's better than 90 percent.

Mr. CARPER. Is that 90 percent of those who are reporting or those who are attempting to report and get through? What is the 90 percent?

Admiral SHEAR. It's 90 percent of the reporting procedures.

Now, under CW communications situations and, having been captain of a number of vessels around the world and faced with the importance of getting communications through, I will tell you that, in the various atmospheric conditions, particularly with high frequency, CW communications, it is not at all uncommon to have a very difficult time raising a shore station.

And that is what we are faced with here. The radio operator or the master of the vessel makes an attempt to get a message through and it doesn't always succeed. It is not a high percentage situation but, nonetheless, it does occur.

And, when it does occur and a vessel misses a report, for example, it's very difficult for me and my organization to prove that that message was not attempted to be forwarded in a timely manner, so that is why there has been no record whatsoever of attempting to impose fines on the system.

Mr. CARPER. With the adoption of satellite systems, do you envision a day in the future when those reporting requirements will be enforced?

Admiral SHEAR. I see no reason why they shouldn't be. With a satellite system, the percentage is very close to 100 percent—99 percent plus on a capability of getting through at any time. It's a vastly improved situation.

Mr. CARPER. Thank you, sir.

Mr. HUGHES. Thank you, Admiral. Your testimony is most valuable. The record will remain open while you submit some of the responses that were requested.

Admiral SHEAR. Thank you, sir.

Mr. HUGHES. Thank you, Admiral.

Our next witness is Adm. G. H. Patrick Bursley. National Transportation Safety Board.

Mr. Bursley.

**STATEMENT OF REAR ADM. G. H. PATRICK BURSLEY, NATIONAL  
TRANSPORTATION SAFETY BOARD**

Mr. HUGHES. We have your very excellent statement which, without objection, will be made a part of the record, and we hope you can summarize for us.

Mr. BURSLEY. Thank you, Mr. Chairman. I'd be pleased to.

Mr. Chairman, the National Transportation Safety Board is pleased to have been invited to present testimony regarding the current state of the safety of marine transportation, including the effectiveness and efficiency of the U.S. Coast Guard's marine safety program. It should be noted that the Safety Board has not conducted an overall evaluation of the Coast Guard's entire marine safety program. But, through accident investigation, the Board is substantially informed regarding a significant portion of that agency's marine safety activities.

Several recent investigations have involved issues regarding the quality of vessel inspections and Coast Guard requirements for crew training and life-saving equipment. While my testimony as presented for the record largely hinges on these investigations, these investigations alone do not necessarily give a representative picture of the effectiveness and efficiency of the entire Coast Guard marine safety program.

In the course of its investigation of the disappearance of the S.S. *Poet* about October 25, 1980, the Safety Board examined the adequacy of the inspections conducted by the U.S. Coast Guard, the surveys conducted by the American Bureau of Shipping and the surveys conducted by the National Cargo Bureau.

The Safety Board concluded that the Coast Guard had conducted comprehensive hull, machinery and drydock inspections and that ABS had conducted comprehensive boiler, tailshaft, drydocking and intermediate surveys, except that, in the latter case, it had not inspected any salt water ballast tanks. The Safety Board found that the NCB surveyor had not observed the completion of the loading of grain into all cargo holds.

As a result of the Board's recommendations, the ABS issued a circular letter to all its surveyors emphasizing the importance of salt water ballast tank inspections at intermediate surveys and revised its circular regarding outstanding structural repairs to require that permanent repairs be completed prior to the next special survey. The National Cargo Bureau also updated its instructions to grain-loading inspectors.

The Safety Board also investigated the capsizing of the offshore drilling rig, *Ocean Ranger*. Its recommendations in connection with that investigation dealt with action to maintain the vessel under inspection. It addressed also the fact that the person in charge of a mobile offshore drilling unit is not licensed or certificated by the Coast Guard; yet, under Coast Guard regulations, he is responsible for the safe operation of the unit. Without a licensing requirement, the Coast Guard does not have effective jurisdiction to enforce this requirement.

The Safety Board expressed concern with respect to the qualifications of the ballast control-room operators on board the *Ocean Ranger*. They performed a very critical and vital function to the safety of the vessel. Yet, they were, for the most part, people who had no experience in maritime related subjects and little understanding of the technical significance of their function. The Safety Board assigned as a contributing cause to the accident the insufficient training of these personnel by the owner.

The Safety Board also found that the requirements—Federal requirements—regarding personnel qualifications and manning standards for mobile offshore drilling units are very limited and that they are in need of substantial expansion.

The investigation of the *Marine Electric* accident is still in progress and I'm not prepared to make any comments regarding that investigation, with one exception, and that is: of the 24 persons whose bodies were recovered, 20 had died of hypothermia.

The accident took place in approximately 38 degrees north latitude, and we believe that the accident is significant in connection with rulemaking action the Coast Guard has in progress with respect to requirements for exposure suits.

The Coast Guard has, in its notice of rulemaking, proposed that vessels which have enclosed lifeboats should not be required to provide exposure suits for their crews and that vessels which operate south of 39 degrees—excuse me—south of 38 degrees north latitude on the Outer Continental Shelf of the United States also should not be required to have this equipment because water temperature is generally over 60°. We believe that as to the latter case it is very important that the Coast Guard review the data upon which it founded the 38 degree boundary because the water temperature at the time of the accident was 39°. As to the former exemption the *Marine Electric* didn't have covered life boats; but the fact is that the crew was not able to enter the lifeboats, so whether the lifeboats were covered or not made no difference.

The Board was asked to comment about several specific topics. One of them was H.R. 3846, a bill to promote maritime safety on the high seas and navigable waters of the United States.

The provisions of the bill that would increase the monetary penalties for vessels which operate without a valid U.S. Coast Guard certificate of inspection should deter operators and owners from allowing the certificates of inspection to expire, as was the case with the *Ocean Ranger*.

The Safety Board has previously recommended measures similar to the provisions of H.R. 3486, that would strengthen the position reporting requirements for U.S.-flag merchant vessels.

In its accident report regarding the *Poet*, the Safety Board pointed out that the *Texaco Oklahoma*, the *Daniel J. Morrell* and the *Marine Sulfur Queen* were all on domestic voyages when they sank. The loss of each of these three vessels went undetected for more than 36 hours before the Coast Guard was notified. The Safety Board believes that the reporting requirements of the U.S.-flag merchant vessel location filing system should be extended to include vessels on domestic voyages.

The Safety Board in its recommendations has supported measures which would improve the capability of ocean-going vessels to

maintain reliable communications with shore such as the provisions of H.R. 3486.

We were asked to comment generally on the statutory framework of the U.S. laws for minimizing the likelihood that marine accidents will occur. The Board believes that the Coast Guard, in most respects, has adequate statutory authority.

While it will make no significant substantive addition to the law, H. R. 2247, a bill "to revise, consolidate and enact certain laws related to vessels and seamen as subtitle II of title 46, United States Code," "Shipping" is, in the opinion of the Safety Board, a proposal of great merit in that it will facilitate the maritime community's understanding of the law, thereby promoting compliance and thus safety at sea.

The Board earnestly hopes that, after the numerous fruitless attempts that have been made over a period of many years to codify title 46, the current endeavor will be successful.

Finally, I'd like to discuss several topics which are of particular current concern to the Safety Board.

A segment of the Coast Guard's regulatory activity which the Safety Board believes is in need of attention is that related to the operation of passenger ferries. With the notable exception of the accident involving the tanker S.S. *Frosta* and the ferry *George Prince* at Luling, La., on October 20, 1976, in which 77 lives were lost among the 95 persons on board, the latter vessel, there have been few fatalities in the course of U.S. ferry operations. But there have been some close calls.

In Seattle on January 13, 1981, the motor vessel *Sanko Grain* and the ferry *Klahowya* collided in dense fog. There were no fatalities and no reported injuries; although the Board could not ascertain how many persons were on board, the ferry is certificated to carry 1,140 passengers.

In New York, on May 6, 1981, the motor vessel *Hoegh Orchid* and the ferry *American Legion* collided, again in heavy fog. There were 71 persons with minor injuries among the approximately 2,350 persons on board; the ferry is certificated to carry 3,533 passengers.

And, just recently on July 2, 1983, the motor vessel *Harbell Tapper* and the ferry *Yankee* collided in fog in Rhode Island Sound. The *Yankee* had 140 persons on board; 6 persons had minor injuries.

My remarks that follow, we have not evaluated it yet.

It is clear that accidents involving ferry operations have the potential for catastrophic results. Yet the regulatory regime is, in the view of the Safety Board, very lax.

Because of the relatively routine nature of the operations over fairly fixed and generally short routes, deviations from equipment requirements of the navigation safety regulations are granted liberally; in the view of the Board, too liberally.

The Board has addressed safety recommendations with regard to ferry operations to the Coast Guard and to various ferry operators. The Coast Guard has rejected the Safety Board's recommendations for improvements.

Specific inquiry was made about the Coast Guard's ability to use lessons learned from past tragedies to avoid future mistakes.

Therefore, it is appropriate to conclude my remarks with the following observations.

Over the course of the 15 years that the Safety Board has been responsible for the investigation of marine accidents, and for general oversight of the marine safety activity of the Coast Guard, it has issued 571 recommendations to the Coast Guard.

Of these recommendations, 241 have been closed following action by the Coast Guard which was deemed to be essentially responsive to the recommendations.

Forty-five recommendations were closed upon a determination by the Safety Board that the recommendations had been overtaken by changed circumstances or otherwise were no longer applicable.

There is Coast Guard activity in progress which is likely to lead to an acceptable closing of 162 recommendations. While, in a number of cases the Coast Guard has not accepted significant Safety Board recommendations, and we would like to see a higher acceptance rate than the current 75 percent, the Safety Board believes that its recommendations are consistently given thoughtful appraisal by the Coast Guard.

Thank you, Mr. Chairman. I'd be pleased to respond to any questions you may have.

Mr. HUGHES. Let me just follow from that, if I might, Admiral.

Specifically, with regard to your recommendations relative to ferry operators, can you be a little more specific as to what the recommendations are?

Mr. BURSLEY. Yes, Mr. Chairman.

Most particularly, the ferries involved in the accidents I referred to were not equipped with gyrocompasses. Hence, their radars were not in a stabilized mode but were in a heads-up mode—such that the presentation changed as the heading changed of the ferry varied.

We found, in those cases, that the operators of the ferries had great difficulty in projecting the intended movements of the other vessel that was involved in the collision situation and in taking appropriate evasive measures.

We recommended that the Coast Guard require the installation of gyrocompasses and stabilized radars on ferry vessels.

That recommendation has been rejected.

Mr. HUGHES. What was the basis for the rejection? Do you know offhand?

Mr. BURSLEY. The rejection is cast in terms of the short routes, the fact that the pilots are familiar with the routes, that they are never far away from landmarks which allow them to find out where they are.

Certainly economics are involved. We think, though, that the exposure in terms of the frequency with which ferries operate and the number of people that are on board warrants a different perspective than just the naked size of the ferry and its proximity to the shore.

Mr. HUGHES. Are ferries required to carry life boats?

Mr. BURSLEY. Mr. Chairman, my impression is that ferries rely more on life rafts. I don't believe they are required to carry life boats. But I don't know the answer to that question.

[The following was submitted:]

## LIFEBOATS ON FERRIES

46 CFR 75.10-20(b) specifies lifeboatage requirements for ferry boats but allows extensive substitution of inflatable liferafts so that some small ferryboats may carry only a small rescue boat. Even a large ferryboat may carry only two lifeboats relying principally on inflatable liferafts to accommodate the persons on board.

Mr. HUGHES. But the basis of the Coast Guard's rejection in particular was because of the short routes involved, and the fact that the operators knew the routes fairly well.

Mr. BURSLEY. And the availability of prominent radar landmarks for establishing their position.

The thrust of our remarks—our recommendations was directed more at their maneuvering needs in relation to other vessels in periods of restricted visibility than their successfully navigating from point to point.

Mr. HUGHES. For instance, the route—my colleague from Massachusetts probably would know it better than anybody—the route from the Cape out to Nantucket is what distance?

Mr. BURSLEY. I think perhaps 22 miles. I'm not certain just how far it is. The run from the dock in Hyannis to the dock in Nantucket is 25 miles.

Mr. HUGHES. OK.

I gather from your testimony that you support the thrust of many of the provisions of H.R. 3486.

Mr. BURSLEY. We have made specific recommendations for regulations closely paralleling the thrust of most of its provisions.

Mr. HUGHES. You believe that the enactment of that legislation would contribute in significant way to marine safety?

Mr. BURSLEY. Well, we would like to see an encouragement of improved communications systems; however, the Board doesn't address questions such as whether it's appropriate that there be Federal funding; but the basic premise, that improvement of communications for vessels is an important safety element, we thoroughly agree with.

Mr. HUGHES. Do you generally agree that increasing penalties for safety violations is an effective way to deter violations?

Mr. BURSLEY. I've had no direct experience with that, and the Safety Board also is substantially removed from enforcement. There is an appealing connection and probably the certainty of a sanction has some effect, but I believe, as was pointed out by Admiral Shear, that probably the most effective sanction is not letting a ship sail.

Mr. HUGHES. Admiral, from the loss of the Coast Guard cutter "*Blackthorn*" in 1980, the National Transportation Safety Board recommended that the Coast Guard require all U.S. merchant vessels over 1,600 gross tons be equipped with at least one motor lifeboat on each side and gravity davits throughout.

The NTSB also concluded the utility of lifeboats on U.S. cargo ships is greatly reduced by the continued use of sheath, screw-type davits which increase the time required to launch them in an emergency.

Can you tell us what kind of lifeboat launching equipment was possessed by the *Marine Electric*?



Mr. BURSLEY. No. I will have to furnish that for the record. The *Marine Electric* was equipped with sheath-screw mechanical davits with rope falls.

Mr. HUGHES. Would you do that for us, please?

Does the National Transportation Safety Board believe that the Coast Guard should prohibit the continued use of sheath screw-type davits on all ocean vessels, regardless of age?

Mr. BURSLEY. We have recommended that davits which are faster and easier to use be installed—and I think the context of our recommendation was that there should be a ready boat to get away from the vessel for rescue purposes.

I don't recall that our recommendation was a blanket one for all the lifeboats on a ship.<sup>1</sup>

Mr. HUGHES. The National Transportation Safety Board, as I understand it, has the responsibility for examining safety questions which arise throughout the area of transportation, including air, rail, and highway. How would you compare the safety data acquisition and utilization system of the Coast Guard with that of the other Federal agencies which you are involved in? Such as the FAA and the ICC?

Mr. BURSLEY. The system I'm the most familiar with is our own which encompasses the aviation mode. It was born in a time when civil aviation was in its infancy and it has steadily advanced in complexity keeping pace with the evolution of aviation and the needs of safety analysis. The gathering of comprehensive data in the marine mode, on the other hand, has been undertaken only in recent years and lags significantly behind the aviation mode.

The Federal Highway Administration and the National Highway Traffic Safety Administration have very elaborate data systems but, even there, there's a question of just how comprehensive the motor vehicle/highway data base is currently.

Mr. HUGHES. So are you saying that basically the system compares favorably?

Mr. BURSLEY. No. It is also my impression that the Coast Guard is not satisfied with what it has and is working on improving it. When we start asking for data, we sometimes don't get data at the level of detail that we would like to have in the marine mode.

Mr. HUGHES. I gather, from your statement also that the Coast Guard has been fairly responsive and the responsiveness has improved to the point where it's about a 75 percent—

Mr. BURSLEY. Yes. That's comparable to the other modes. The FAA runs about 80 percent and the rail mode about 76 percent; highway mode a little lower. So the Coast Guard is about in the same ballpark as the other modes of transportation.

Mr. HUGHES. OK. Thank you.

The gentleman from New Jersey.

Mr. FORSYTHE. Thank you, Mr. Chairman. And thank you, Admiral.

<sup>1</sup> The recommendation reads as follows: "Require all U.S. merchant vessels over 1,600 gross tons to be equipped with at least one motor lifeboat on each side and gravity davits throughout."

I'd like to touch again on the area of how we get beyond the Government's behavior to the behavior of the private party involved—the owner or the operator.

In your testimony, you criticize the Coast Guard for not responding to some of your recommendations, although you've just pointed out to the chairman that they do accept a relatively high percentage.

What obligation does a private party or the Government have to respond to the recommendations of NTSB and, if there is a requirement to respond, what enforcement mechanism do you have to insure this occurs—response from the private party interested in particular?

Mr. BURSLEY. Mr. Forsythe, the Independent Safety Board Act requires the Federal agencies within the Department of Transportation to whom we address recommendations to respond to us within 90 days.

Frequently, that response will be an interim response because it is not unusual for it to take a bit longer for the agency to complete its analysis. The insuring dialog may stretch over a period of time but, ultimately, the Federal agencies are required to respond to us in a substantive way.

Now, they are not required to accept our recommendation and, at some point, if the agency feels it cannot accept our recommendation and we still persist in our recommendation we will close the recommendation as having received unacceptable action.

In the case of private parties, there is no requirement that they respond to us at all; as a practical matter, most of them will respond to us but, again, we are not empowered to force acceptance of our recommendations, which are, by their nature, advisory. We exercise as much persuasion as we can. We muster our accident investigation data and any other data that we can assemble in support of our recommendation in an effort to persuade the affected party to come around to our way of thinking, but we do not have any power to compel acceptance of our recommendation.

Mr. FORSYTHE. Well, is that because the agency, Department of Transportation, FAA, whatever, is the one who is responsible for further regulatory action and, therefore, there isn't a direct connection between the Safety Board and the private party involved?

Mr. BURSLEY. Well, the Congress cast the role of the Safety Board in terms of an independent examination of the facts of an accident, and determining the cause(s) of an accident and independently formulating of recommendations. The Board was not given any enforcement power because the thought was that, if it had enforcement power, it could become committed to particular courses of action—right, wrong, or indifferent.

We don't seek enforcement authority. We are very comfortable with being able to stand at the side of an accident and to look at it in a detached way and similarly to stand at the side of a safety problem and look at it without preconceptions.

Sometimes we are disappointed that what we have recommended is not accepted. All in all, however, I think we are better off in a situation that we recommend and, ultimately, the agencies responsible for regulation are accountable for the adequacy of the regulations that they promulgate.

Mr. FORSYTHE. Thank you.

I believe the mandate of NTSB is to determine the cause of an accident so that future accidents may be prevented, rather than to enforce safety laws and regulations. And I think you have already answered this one, really.

As you point out, it is the agency that you are dealing with in terms of reporting to the agency recommendations for improvement of safety regulation and only indirectly do the owner or operator get involved.

Mr. BURSLEY. Yes. But we have found on a number of occasions that going directly to the owner-operator has elicited prompt action. I might cite the *Ocean Ranger* case where we have recommended that exposure suits be provided to crews of ocean—offshore drilling rigs. The regulatory process is still cranking along but the owners of the *Ocean Ranger* have equipped all of their off-shore drilling units with exposure suits; so there the direct appeal to the owner provided a very quick fix.

We made a similar appeal to the International Association of Drilling Contractors and we believe that it has circulated the recommendation amongst its members and I would imagine that other operators have moved ahead of the regulatory process. Accordingly, a direct channel to the private side is valuable; but ultimately, in many cases, the regulatory channel is the only one that's going to solve the problem across the board.

Mr. FORSYTHE. And, therefore, you also do not approve of any change in this setup that would get you into the regulatory process.

Mr. BURSLEY. We do not seek any regulatory authority.

Mr. FORSYTHE. In your testimony, you point out that ABS has more stringent standards for older vessels, while the Coast Guard does not. Would it be safe to conclude that ABS procedures are preferable for inspecting vessels than those of the Coast Guard?

Mr. BURSLEY. Mr. Forsythe, I don't want to convey the wrong impression. The Coast Guard has no specific standards whereby a vessel 25 years old gets a different inspection than a vessel 5 years old. But, in terms of actual practice, in terms of what is actually done on the scene, it is my understanding that the inspector takes into consideration the fact that he is looking at an older vessel rather than a new vessel and adjusts the inspection accordingly.

The point of the statement in my prepared testimony is that, as distinguished from ABS where there are specific particular inspection items for older vessels described in their process, there are not in the Coast Guard's process.

Mr. FORSYTHE. Well, isn't it true that in this process of taking into consideration older age that can be both plus and minus that, yes, they look for more scrutinized maintenance levels but also, if the original equipment is still there but in good shape, they do not go so far as saying: you've got to change this equipment.

Mr. BURSLEY. Generally, the regulatory requirements for upgrading systems are keyed to a major rebuild of vessels rather than just maintenance repairs.

Mr. FORSYTHE. Keyed to annual certification or 2-year drydock?

Mr. BURSLEY. That would not trigger a major system overhaul, or a replacement. It's only if—well, for example, when the T-2 conversions were made, the Safety Board recommended that it would

be appropriate to upgrade the steering systems of the vessels. That is one recommendation which the Coast Guard did not accept and we believe very strongly that this steering is a vital ship system which should have been replaced when the vessels were renovated for extended use.

Mr. FORSYTHE. It seems to me we've got a hole here somewhere. I'm not sure where I'm going to find it.

Thank you.

Thank you, Mr. Chairman.

Mr. HUGHES. The gentleman from Massachusetts.

Mr. STUDDS. Thank you, Mr. Chairman.

Admiral, just to refresh my memory, in the case of an accident at sea in which there are fatalities, what triggers the jurisdiction of the Safety Board? Is it the number of deaths?

Mr. BURSLEY. We have a joint regulation with the Coast Guard in which we define several parameters for a major marine casualty which is where the Board's jurisdiction attaches.

Six fatalities is one of the criteria of the—monetary damage, \$500,000; complete loss of a vessel of over 100 tons—there are a couple of others.

Mr. STUDDS. I recall. Thank you.

The *Virginia Pilot*, as you probably know, recently ran an editorial criticizing this country's continued reliance on the T-2 tankers. The editorial concluded with this sentence: "Antique ships are fine in historical exhibits, but not when they sail under the flag of the Grim Reaper."

Six days later, the paper ran a letter to the editor from a merchant seaman who said:

The T-2 tanker is no more a death ship than any of those new foreign-built ships that you claim Ronald Reagan wants our ship owners to buy; in fact, I believe the T-2 is equal to anything that sails today. Those vessels were built to last; I would much rather work on them than the garbage that is produced today.

I am wondering if you have any comment on that and whether you think there's any special reason to worry about the T-2 tankers and whether we should be proud to have them play so prominent a role in the U.S. fleet.

Mr. BURSLEY. Mr. Studds, I am not a naval architect or a naval engineer. I couldn't really pass on that in terms of its technical aspects. I think the testimony that has been presented to the committee so far has emphasized the fact that age of itself is not necessarily the definitive criterion—that other factors are—well, at play and in particular the quality of the maintenance that goes into the vessel over its lifetime, so I don't think one can really take on the issue on age only.

Mr. STUDDS. I understand that.

The subject of aging is becoming one of increasing interest to this subcommittee in many respects. One witness, during our first hearing, expressed skepticism about the possibility that a leak in a vessel hatch cover could result in the sinking of a vessel. I understand this is a question, as you do, too, of some relevance to the *Marine Electric* and that that investigation is not completed.

But, on a general level, given your experience in the field of marine safety, do you believe that leaks in cargo hatch covers, if very serious in nature, could result in the sinking of a vessel?

In other words, is the condition of hatch covers important for reasons of safety or only in order to guarantee the integrity of the cargo?

Mr. BURSLEY. No, I think there clearly is a safety implication from the condition of hatches which depend on the kinds of seas that are encountered. The actual condition of the hatches is a factor that has to be taken into account.

Now, as I recall, in one investigation the Board did on the Great Lakes, the issue of the quality of the dogging of the hatches became very prominent in the analysis as to whether sufficient down-flooding occurred through the hold to sink the vessel—I think it was the *Fitzgerald*, as a matter of fact, where that came up.

Mr. STUDDS. In the Safety Board's May 9, 1980 report on the ramming of the Sunshine Skyway Bridge by the Liberian bulk carrier, *Summit Venture*, in Tampa Bay, the following recommendation was made:

The Safety Board believes that the Coast Guard should seek congressional legislation to gain statutory authority to act, when appropriate, against the Federal license of a pilot serving under the authority of his State license.

Do you continue to believe that the statutory authority is important, and if so, why?

Mr. BURSLEY. We have investigated numerous accidents in which the performance of the pilot has been at issue. We feel that the way a pilot handled a particular situation should undergo professional review. In many States, there is a very good mechanism within the State pilotage association to conduct such a professional review. In other States, it probably is not the case.

The bulk of the States require that pilots engaged in handling large vessels have, either as a statutory or a practical requirement, a Coast Guard license. That license is an endorsement by the Federal Government of the qualifications of the pilot.

It has seemed anomalous to the Board that the issuing authority of a Federal license has to stand back and not be able to conduct any professional review of what has been done by a person holding that license.

Mr. STUDDS. I don't want to be facetious, but I think you're trying to say "yes" to the question before you.

Mr. BURSLEY. I'm trying to say "yes" to a question that has been answered very categorically "yes" on a number of occasions, to my mind, for the wrong reason.

Mr. STUDDS. I understand.

Mr. BURSLEY. And the "wrong reason" being the inadequacy of the State review.

Mr. STUDDS. I understand.

Mr. BURSLEY. And I think the right reason for it is that a license-issuing authority should continue to have a string on that license.

Mr. STUDDS. I appreciate that.

Admiral, following the disappearance of the *Poet*, the Atlantic commander of the Coast Guard submitted a report in which he stated:

A vessel the size of the *Poet* should have more than one EPIRB aboard. EPIRB's carried by vessel should be salt-water activated and checked prior to every voyage. A good rule of thumb for vessels could be to carry a minimum of two EPIRB's on

deck and at least one salt-water activated EPIRB on every liferaft and lifeboat survival kit.

Do you believe that is a sound recommendation, and would it not be logical to require that EPIRB's be placed in lifeboats?

Mr. BURSLEY. We have urged advances in EPIRB use and in the technology of receiving EPIRB signals. We've never specifically addressed how many EPIRB's should be carried. I would certainly think that an EPIRB on each lifeboat would be a sensible requirement.

Mr. STUDDS. One final question if I may.

The subcommittee has seen statistics which indicate that the Coast Guard only imposes civil penalties or other sanctions in a fraction of those instances in which it has the authority to do so for violations of marine safety rules and regulations.

Has the Safety Board ever recommended that the Coast Guard adopt a more hardnosed attitude in this area, and do you think higher and more frequent penalties would contribute to marine safety?

Mr. BURSLEY. To my recollection, Mr. Studds, we have never made any recommendation along that line. I don't think we would take a position on the imposition of sanctions.

There is a deterrent in some level of sanctions, but I think, in the safety area, where possible—forcing corrective action is to be preferred to a sanction.

Mr. STUDDS. Thanks for some helpful testimony.

Thank you, Mr. Chairman.

Mr. HUGHES. The gentleman from Delaware, Mr. Carper.

Mr. CARPER. Thank you, Mr. Chairman.

Earlier, Admiral, in the questioning, you were discussing the responsiveness of the Coast Guard in adopting the recommendations that were suggested to them by your group.

You mentioned that the acceptance rate has risen to about 75 percent. What recourse do you have when your recommendations are not adopted?

Mr. BURSLEY. Well, we keep going back at the organization to which we have made the recommendation with additional justification where we have it; sometimes with an analysis of their basis for rejection, if we feel that the basis for rejection was flawed.

At some point, we are faced with perhaps going public in the sense that, if the agency continues to reject our recommendation, we will close the recommendation as unacceptable action, but at every opportunity that we have to comment on the substance of it in a public forum, we will renew our recommendation.

We've done that most recently quite intensively in the aviation area where the Safety Board and the FAA have not seen eye-to-eye on some recommendations. Opportunities such as the one I have right now before this committee are frequently utilized to bring a problem to public attention in the hope that other pressures will be exerted on the agency—to take appropriate action.

Mr. CARPER. Do any significant recommendations come to mind that apply to the kinds of things we're discussing today that have been rejected?

Mr. BURSLEY. Well, I mentioned, in the course of my testimony, that we believe that the manning requirements and the qualifica-

tions of personnel on mobile offshore drilling units are in need of beefing up. We made such a recommendation after the *Ocean Express* accident back in 1979 and the Coast Guard only accepted it in part. We renewed our recommendation in connection with the *Ocean Ranger* investigation case.

I had mentioned earlier in my testimony the matter of the upgrading of steering systems on T-2's when they underwent major renovations.

We frequently observed in tankship accidents, while the vessel was engaged in either loading or offloading that, in the event of an emergency, the number of escape routes and escape facilities seemed too limited.

We have made recommendations for multiple escape routes and boats in attendance and things of that nature, and generally our recommendations in that area have been rejected.

We've recommended that operators of vessels which are equipped with radar be required to have radar endorsements. The Coast Guard's view is, if it doesn't have the regulatory authority to require a radar on a particular class of vessel, it will not require the operator to have a radar endorsement. That's fine except that, as a practical matter, many vessels that are not required to, do in fact have radar and in a great proportion of them the radar is not fully understood by the operator so it is not used to maximum advantage.

Those are a few that come to mind.

Mr. CARPER. All right.

One last question. In H.R. 3486, a vessel owner is required to notify the Coast Guard if the owner has not heard from a vessel in over 48 hours. Does the Safety Board believe that this backup system will improve the safety of mariners at sea significantly?

Mr. BURSLEY. Well, we made a recommendation very similar to that in the *Poet* investigation and we believe that it would be a redundancy that would be helpful. We've also addressed the fact that the commercial radio station holding traffic for a vessel at sea would be in a position to know whether it was maintaining communications and was able to get through and recommended to the FCC that such facilities could be used as a further backup.

There's been an advisory issued by the FCC mentioning this as a possibility, but the FCC has not felt it could mandate a course of that nature. And so I think it would be a good redundancy.

Mr. CARPER. Thank you, sir.

Mr. HUGHES. Thank you very much, Admiral. You've been most helpful and we appreciate your coming here and sharing with us your views of some of these important issues.

Mr. BURSLEY. Thank you, Mr. Chairman.

Mr. HUGHES. The next witness is Rear Adm. William Benkert, president of the American Institute for Merchant Shipping.

Admiral Benkert.

[Complete statement of Admiral Bursley follows:]

STATEMENT OF ADM. G. H. PATRICK BURSLEY, MEMBER, NATIONAL TRANSPORTATION  
SAFETY BOARD

The National Transportation Safety Board is pleased to have been invited to present testimony regarding the current state of the safety of marine transportation including the effectiveness and efficiency of the U.S. Coast Guard's Marine Safety Program. It should be noted that the Safety Board has not conducted an overall evaluation of the Coast Guard's entire marine safety program, but through accident investigation, the Board is substantially informed regarding a significant portion of that agency's marine safety activities.

Several recent investigations have involved issues regarding the quality of vessel inspections and Coast Guard requirements for crew training and lifesaving equipment. While my testimony will largely hinge on these investigations, these investigations alone will not necessarily give a representative picture of the effectiveness and efficiency of the entire Coast Guard Marine Safety Program.

In the course of its investigation of the disappearance of the SS POET about October 25, 1980, the Safety Board examined the adequacy of the inspections conducted by the U.S. Coast Guard, the surveys conducted by the American Bureau of shipping (ABS) and the surveys conducted by the National Cargo Bureau (NCB). The Safety Board concluded that the Coast Guard had conducted comprehensive hull, machinery and drydock inspections and that the ABS had conducted comprehensive boiler, tailshaft, drydocking and intermediate surveys, except that in the latter case it had not inspected any saltwater ballast tanks.



The Safety Board also found that the March 1980 decision by the POET's owner (and the ABS' concurrence) to defer permanent repairs of some damage resulting from a collision in January 1978 for another four years increased the probability of further structural damage.

As a result of the Board's recommendations based on these conclusions, the ABS issued a circular letter to all its surveyors emphasizing the importance of saltwater ballast tank inspections at intermediate surveys and revised its circular regarding outstanding structural repairs to require that permanent repairs be completed prior to the next special survey. The Safety Board found that the NCB surveyor had not observed the completion of loading of grain into all cargo holds and recommended that NCB direct its field surveyors to conduct more thorough loading inspections. In response, the NCB issued a supplement to its instructions for grain loading emphasizing the precautions that its surveyors must take including observation of the final stages of loading.

The Safety Board's investigation of the mobile offshore drilling unit OCEAN RANGER accident on February 15, 1982 showed that the vessel did not have a valid certificate of inspection when it capsized and sank. The owners did not request a biennial inspection for the OCEAN RANGER until one month after the certificate of inspection had expired.

The Safety Board concluded that ODECO, the owner of the OCEAN RANGER, did not have adequate procedures to insure that its vessels were kept in compliance with Coast Guard regulations and were inspected on time and that the Coast Guard did not have any procedure for notifying vessel owners that Coast Guard certificates were about to expire. The Safety Board recommended that ODECO improve its follow-up system and that the Coast Guard institute a notification procedure regarding expiring certificates of inspection. As yet we have not received any response from either the owner or the Coast Guard on what action they will take.

Present Coast Guard regulations do not require that the person-in-charge of a mobile offshore drilling unit be licensed or certificated by the Coast Guard, yet the person-in-charge is responsible under the Coast Guard regulations for the safe operation of the unit. A former person-in-charge of the OCEAN RANGER testified that he could not recall ever reading applicable Coast Guard regulations and, furthermore, he was unaware of his responsibilities and obligations under the regulations. While Coast Guard regulations address the responsibilities of the person-in-charge in some detail, these regulations are ineffectual. The Coast Guard cannot effectively enforce the rules since it does not have jurisdiction over the individual through the licensing process.

The Safety Board recommended that the Coast Guard require the person-in-charge of a mobile offshore drilling unit to be licensed or certificated. The Safety Board has yet to receive a response to this recommendation.

The Safety Board found that the ballast control room operators aboard the OCEAN RANGER performed functions which were vital to its safety. It believes these functions should have been performed by trained persons who were either licensed or certificated by the Coast Guard. The investigation revealed that the OCEAN RANGER ballast control room operators had little or no background in ship stability or other marine related subjects, had little understanding of the significance of their functions, and were recruited from the ranks of those persons working on the drill floor.

Training consisted of on-the-job training sessions conducted by the senior control room operator during a portion of a routine workday. ODECO did not provide training or written guidance in emergency procedures for operating the ballast control system nor did it define adequately the duties and responsibilities of the person-in-charge or master regarding marine safety functions, nor was it required to by regulation.

The Safety Board determined that a contributing cause to the capsizing and sinking of the OCEAN RANGER was the failure of the management of ODECO to have an effective program to provide sufficient training and familiarization in the operation of the ballasting system to pertinent personnel in the OCEAN RANGER.

The Safety Board also found that federal requirements regarding personnel qualifications and manning standards for U.S. mobile offshore drilling units are long overdue and recommended that the Coast Guard act immediately to set such standards. Also the Board recommended that ODECO require persons-in-charge be fully qualified in the operation of the ballast control system and that it define in detail the qualifications for ballast control operators. The Safety Board has yet to receive a response from either ODECO or the Coast Guard to its recommendations.

The Safety Board's investigation showed that all crewmembers of the OCEAN RANGER whose bodies were recovered died of hypothermia - loss of body heat to the cold water - and that contributing to the loss of life was the lack of personal thermal protection equipment for the OCEAN RANGER's crewmembers for the effects of hypothermia. In addition, the Safety Board found that contributing to the loss of life was the difficulty of launching lifeboats and liferafts in the severe wind and sea conditions and inadequate equipment aboard rescue vessels for recovering persons from the sea under adverse conditions.

The Safety Board has not received any response from the Coast Guard, MOBIL Oil of Canada, or the International Association of Drilling Contractors regarding recommendations which it made to them to review the adequacy of existing lifeboat and liferaft launching systems and to upgrade the requirements for equipment aboard rescue vessels for recovering persons from the water. However, ODECO has responded to another of the Board's recommendations by equipping all its offshore drilling units with sufficient exposure suits for all persons aboard, and the Coast Guard has started the rulemaking process to require exposure suits on commercial vessels operating in colder waters.

The Coast Guard's proposed rules would not apply to vessels with totally enclosed lifeboats, except for mobile offshore drilling units, or to any vessel solely operating in waters between 35 degrees north altitude and 35 degrees south latitude or on the continental shelf of the United States in the Atlantic Ocean south of 38 degrees north latitude where the Coast Guard has stated the water temperature is usually above 60 degrees Fahrenheit.

When the MARINE ELECTRIC capsized and sank on February 12, 1983, it was located south of 38 degrees north latitude on the outer continental shelf of the United States in the Atlantic Ocean, and the water temperature was about 39 degrees Fahrenheit.

Twenty of the twenty-four persons whose bodies were recovered died of hypothermia. The evidence developed in the investigation indicates that even if the MARINE ELECTRIC had been equipped with enclosed lifeboats, the crewmembers would have been thrown into the cold water because they had not yet entered the lifeboats.

The Safety Board's comments on the proposed rulemaking and in safety recommendations it issued at about the same time asked that the Coast Guard reevaluate the water temperature analysis as to the location of the 60-degree Fahrenheit boundary and that it reconsider its exemption for vessels with enclosed lifeboats. The Safety Board investigation also indicated that more of the crew of the MARINE ELECTRIC might have been saved if the boarding ladder on one of the liferafts had been readily accessible and easier for persons in the water to use. The Safety Board also recently recommended that the Coast Guard improve the boarding systems on U.S. Coast Guard approved liferafts.

The Safety Board's ongoing investigation of the MARINE ELECTRIC accident will include an analysis of the adequacy of the Coast Guard inspections and the ABS surveys. The Safety Board has completed a preliminary draft of the maintenance history of the MARINE ELECTRIC. While it is still subject to revision a copy is attached for the use of the Committee.

The background and training of both the Coast Guard inspectors and the ABS surveyors who last examined the MARINE ELECTRIC are being reviewed and the role of the Coast Guard, ABS, the owner and the crew in insuring the safe operation of the MARINE ELECTRIC will be analyzed. However, the Safety Board has not completed its investigation into the cause of the sinking of the MARINE ELECTRIC nor the adequacy of Coast Guard inspection or ABS survey, and cannot offer any specific comments on these matters at this time.

It is noteworthy, nevertheless, that the MARINE ELECTRIC was one of about 63 existing U.S. vessels that were converted from the original 536 U.S. Maritime Administration Design T-2 tankships built between 1942 and 1945 and that T-2 tankships and T-2 conversions make up about 11 percent of the U.S. flag operating fleet. Although there is some evidence that the Coast Guard adjusts its inspection procedures to take the age of a vessel into account, it has no special requirements for the inspection of older vessels; the ABS "Rules for Building and Classing Steel Vessels" do require more stringent surveys as vessels become older.

Turning now to the other topics outlined in the invitation to testify, the Safety Board was asked specifically to comment on H.R. 3486, a bill "To promote maritime safety on the high seas and navigable waters of the United States." The provisions of

the bill which increase the monetary penalties for vessels which operate without a valid U.S. Coast Guard Certificate of Inspection should deter operators and owners from allowing the certificates of inspection to expire as was the case with the OCEAN RANGER.

The provision of the bill, section 2(b)(2), which provides authority to require a vessel to return to mooring and remain there until a certificate of inspection is issued might benefit from a clarification to indicate that the mooring be a protected one. At the time of its capsizing and sinking, the OCEAN RANGER was "moored" at a drilling site.

The Safety Board has previously recommended measures similar to the provisions of the bill which would strengthen the position reporting requirements for U.S. flag merchant vessels. The Safety Board found that the delay by the owners of the POET of more than 48 hours in notifying the U.S. Coast Guard may have contributed to the loss of life.

The Coast Guard has concurred in a Safety Board recommendation that it seek legislative authority to extend the U.S. Flag Merchant Vessel Location Filing System to include vessels on domestic voyages. In its accident report regarding the POET, the Safety Board pointed out that the TEXACO OKLAHOMA, DANIEL J. MORRELL and the MARINE SULFUR QUEEN were all on



domestic voyages when they sank. The loss of each of the three vessels went undetected for more than 36 hours before the Coast Guard was notified.

The Safety Board believes that the reporting requirements of the U.S. Flag Merchant Vessel Location Filing System should be extended to include vessels on domestic voyages. The Safety Board also supports measures which would improve the capability of ocean going vessels to maintain reliable communications with shore such as the provisions of H.R. 3486 which would encourage the installation of Marine Satellite Telecommunications Systems on U.S. flag vessels. Not only would a vessel equipped with a satellite communication system be able to quickly communicate in an emergency, but its ability to communicate more readily for commercial purposes would be enhanced.

The Safety Board also was asked to comment generally on the current statutory framework for minimizing the likelihood that marine accidents will occur. The Board believes that, in most respects, the Coast Guard has adequate statutory authority. While it will make no significant substantive changes in the law, H.R. 2247, a bill "To revise, consolidate and enact certain laws related to vessels and seamen as subtitle II of title 46, United States Code, 'Shipping'" is, in the opinion of the Safety Board, a proposal of great merit in that it will facilitate the maritime community's understanding of the law, thereby promoting

compliance and thus safety at sea. The Board earnestly hopes that, after the numerous fruitless attempts that have been made over a period of many years to codify title 46, the current endeavor will be successful.

It is too early to tell what impact the recently enacted Inland Navigation Rules will have on marine safety, but the Safety Board firmly believes that the consolidation of the multitude of statutory and regulatory rules into rules which are uniform throughout the United States and which closely parallel the international rules was a salutary development. The Safety Board has, however, identified several situations in which there are ambiguities in the rules which could be resolved were the Coast Guard to issue interpretive rulings and it has issued safety recommendations to this effect.

One such matter is that better guidance is needed for the mariner regarding the applicability of the "narrow channel" rule. The Coast Guard has responded to our recommendations by referring the development of interpretive rulings to the U.S. Coast Guard Rules of the Road Advisory Council.

Finally, I'd like to discuss several topics which are of particular current concern to the Safety Board. Another segment of the Coast Guard's regulatory activity, which the Safety Board believes is in need of attention, is that related to the

operation of passenger ferries. With the notable exception of the accident involving the tanker SS FROSTA and the ferry GEORGE PRINCE at Luling, Louisiana on October 20, 1976, in which 77 lives were lost among the 93 persons on board there have been few fatalities in the course of <sup>U.S.</sup> ferry operations. But there have been some close calls.

In Seattle on January 13, 1981, the M/V SANKO GRAIN and the ferry KLAHOWYA collided in dense fog. There were no fatalities and no reported injuries; although the Board could not ascertain how many persons were on board, the ferry is certificated to carry 1,140 passengers. In New York, on May 6, 1981, the M/V HOEON ORCHID and the ferry AMERICAN LEGION collided, again in <sup>heavy</sup> fog. There were 71 persons with minor injuries among the approximately ~~2,350~~ persons on board (the ferry is certificated to carry 3,333 passengers). And, just recently on July 2, 1983, the M/V HARBELL TAPPER and the ferry YANKEE collided in fog in Rhode Island Sound. The YANKEE had 140 persons on board; six persons had minor injuries. (The latter accident is still under investigation and the applicability of the following remarks to that accident has yet to be determined.)

It is clear from these accidents that ferry operations have the potential for a catastrophic accident. Yet the regulatory regime is, in the view of the Safety Board, very lax. Because of the relatively routine nature of the operations over fairly fixed

and generally short routes, deviations from equipment requirements of the navigation safety regulations are granted liberally -- in the view of the Board, too liberally.

For example, the City of New York (Staten Island) and Washington State ferries are not required to have a gyrocompass, and their radars show a relative bearing presentation of targets which makes it difficult to determine accurately other vessels' intentions while maneuvering and complicates the task of determining a safe course of action to safely avoid the other vessels. In some areas ferries do not always adhere to their customary routes. In some areas, ferry schedules do not take into consideration seasonal variations in weather conditions to provide for slower trips when periods of restricted visibility are commonplace. Not all ferries have essential maneuvering data posted in the wheelhouse.

The Board has addressed safety recommendations on these topics to the Coast Guard and to various ferry operators. The Coast Guard has rejected the Safety Board's recommendations for improvements; however, the City of New York is considering the recommendation made to it by the Board that gyrostabilized radars be installed in the Staten Island Ferries.

Another matter which the Safety Board has addressed recurrently is the need for better vessel traffic systems and, in particular, improvements in vessel traffic services (VTS) in a number of ports and waterways. This is one area of activity which we are told in Coast Guard responses to our recommendations that adequate funding has not been available. The Safety Board has urged increased vessel traffic management activity in a number of waterways in the interest of overcoming safety problems associated with vessels (particularly those carrying hazardous materials) meeting or overtaking in constricted waters where there is a high potential hazard of collision.

Another area of Coast Guard activity we have been told has been adversely affected by low funding levels is that of dealing with uninspected vessels, particularly the boarding of tugs and tows on the inland waterways for compliance with equipment requirements and direct contact with fishing vessel operators to encourage safer operating practices. (About fifty fishermen a year are lost at sea.)

Mr. Chairman, you specifically inquired about "the Coast Guard's ability to use lessons learned from past tragedies to avoid future mistakes." Therefore it is appropriate to conclude my remarks with the following observations.

Over the course of the last 15 years that the Safety Board has been responsible for the investigation of marine accidents and for general oversight of the marine safety activity of the Coast Guard, it has issued 571 recommendations to the Coast Guard. Of these recommendations 241 have been closed following action by the Coast Guard which was deemed to be essentially responsive to the recommendations. Forty-five recommendations were closed upon a determination by the Safety Board that the recommendations had been overtaken by changed circumstances or otherwise were no longer applicable.

There is Coast Guard activity in progress which is likely to lead to an acceptable closing of 162 recommendations. While in a number of cases the Coast Guard has not accepted significant Safety Board recommendations, and we would like to see a higher acceptance rate than the current 75 percent, the Safety Board believes that its recommendations are consistently given thoughtful appraisal by the Coast Guard.

Thank you Mr. Chairman, for the opportunity to appear before your Subcommittee. I would be happy to take your questions at this time.

Attachment to Testimony of  
G. H. Patrick Bursley, Member,  
National Transportation Safety Board  
July 27, 1983

**NATIONAL TRANSPORTATION SAFETY BOARD**

**UNITED STATES BULK CARRIER MARINE ELECTRIC**

**CAPBIZING AND SINKING**

**ABOUT 30 NAUTICAL MILES EAST OF CHINCOTEAGUE, VIRGINIA**

**FEBRUARY 12, 1983**

**Maintenance History of MARINE ELECTRIC**

**(Preliminary Draft Subject to Revision)**

### Vessel Information

General.--The MARINE ELECTRIC is one of 63 existing U.S. vessels that were converted from the original 536 U.S. Maritime Administration Design T-2 tankships built between 1942 and 1945. There are also 15 original T-2 tankers still in the U.S. fleet. The MARINE ELECTRIC's original name was MUSGROVES MILLS. The ship was built by Sun Shipbuilding and Drydock Company of Chester, Pennsylvania in 1944 and converted by Bethlehem Steel Company, Shipbuilding Division of East Boston, Massachusetts, in 1962. The MARINE ELECTRIC's hull consisted of the original stern and bow sections and a new 307 ft midbody. (See figure 1.) The new midbody was built by Bremer Vulkan Schiffbau und Maschinenfabrik of Bremen, Germany and towed to the U.S. in 1962. The original T-2 tankship was 523.5 ft long, 68 ft wide and 39.25 ft deep. The converted MARINE ELECTRIC was 605 ft long, 75 ft wide and 47.25 ft deep. The new midbody was built to USCG standards and the American Bureau of Shipping (ABS) 1961 Rules for Building and Classing Steel Vessels. The new midbody was designed to eliminate the structural problems experienced by the original T-2 tankship design by incorporating a riveted deck and bottom crack arrestors. The original T-2 tankship had a raised forecastle deck, midship house and a raised after deck. When the MARINE ELECTRIC was converted, the new main deck of the midbody was the same height as the original forecastle and after deck and they became part of the new main deck. The old main deck was redesignated the second deck.

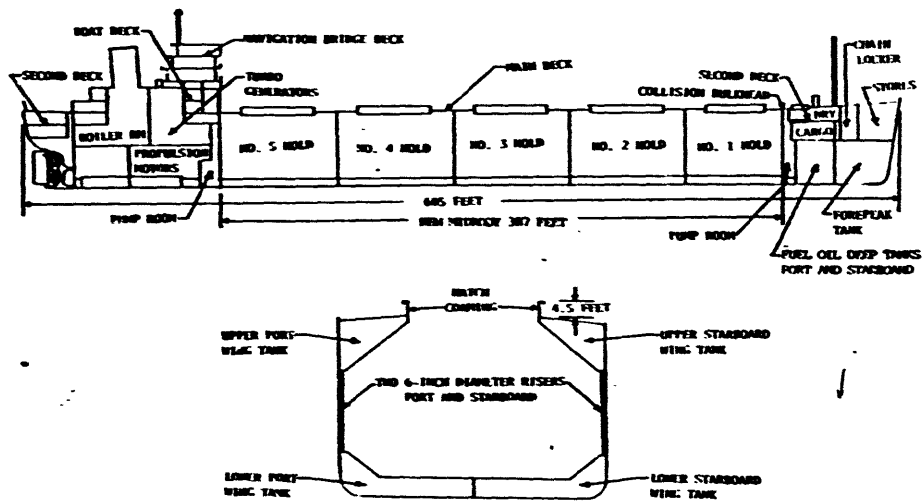
The original T-2 stern section contained the deckhouse and machinery spaces. The original T-2 design had a deckhouse amidships. This deckhouse was moved aft and placed on top of the original after deckhouse. The new midship section contained five



cargo holds and wing ballast tanks port and starboard. Steel hatch covers on 4.5 ft coamings protected each cargo hold. (See figure 1.) The ballast system was unusual in that the upper and lower wing ballast tanks in each hold were common and connected by two 6-inch vertical risers. The upper ballast tanks were filled by pumping through the port and starboard ballast manifolds into the lower ballast tanks until they were filled and the water then filled the upper ballast tanks through the vertical risers until they were full. Water was discharged from the ballast tanks through the piping in the lower ballast tanks using the suction valves in the ballast manifolds. The original cargo pumps were used as ballast pumps. The original bow section contained a small dry cargo space with a non-weathertight hatch on the second deck, various storerooms, the forepeak tank and port and starboard fuel oil deep tanks. A hinged steel hatch cover on a 2.5 ft coaming protected the dry store area.

The MARINE ELECTRIC was owned by Marine Coal Transport Corporation and operated by Marine Transport Lines, Inc. (MTL) of New York, New York. From February 8 to February 29, 1980, the MARINE ELECTRIC was at Jacksonville Shipyards, Inc., Jacksonville, Florida, for drydocking and repair. During this time, an ABS surveyor conducted a drydocking survey, an intermediate hull survey, a tailshaft survey, a port and starboard boiler survey, commenced the No. 8 special survey of machinery and witnessed hull gaugings which were to be credited toward the No. 8 special survey of the hull; at the same time, a MTL structural engineer had some additional hull gaugings taken. However, none of the gaugings included the hatch covers. Coast Guard inspectors also conducted a drydock inspection and approved all structural repairs. During this yard period, doublerplates were installed on the sloping bulkheads of upper wing tanks Nos. 1 port and starboard (P&S), 2 P&S, 3 P&S and 5 P&S; all five port and starboard salt water

Figure 1.—Inboard profile and typical cargo hold section of  
MARINE ELECTRIC



ballast lower and upper wing tanks were examined internally, tested, and found satisfactory. The original bow section was examined internally and found satisfactory. It was noted that some forepeak bulkhead stiffeners were approaching maximum allowable wastage. Ninety-eight doublerplates were installed on the panels of all five hatch covers, sections of the hatch coaming on all hatches were renewed, over 80 hatch hold down bolt clips were renewed or replaced on all five hatches. After the repairs were completed, the hatch covers were found satisfactory by the ABS surveyor. Although the hatch covers were hose tested with 30 psi of water after repairs by the owner's representative, the hose test was not witnessed by an USCG Inspector or an ABS surveyor.

After leaving the shipyard, the MARINE ELECTRIC entered the grain trade carrying grain between the U.S. and eastern Mediterranean ports until December 1980. Meanwhile both the ABS technical office in New York and the MTL structural engineer were analyzing both the ABS witnessed and unwitnessed gauging reports. In a letter to MTL, dated June 16, 1980, ABS indicated the areas of hull plating that had to be replaced as a result of the ABS witnessed gauging. On October 17, 1981, in another letter to MTL, ABS indicated the bulkhead plating, side shell longitudinals and frames that would have to be renewed as a result of the unwitnessed gaugings. Most of the steel to be renewed was in the forepeak tank and upper wing ballast tanks. During November 1980, the MTL structural engineer drew up preliminary specifications for work to be performed on the MARINE ELECTRIC. The specifications included the steel renewals required by ABS and additional structural renewals including extensive plate renewals to the transverse bulkheads in the midship cargo area and 20-4"x2"x1/4", 10-6"x3"x1/4" and 3-41"x2"x1/4" doublers for hatch covers. In preparation, for the repairs which were to be performed in Jacksonville, the New York office of ABS in December provided its

Jacksonville office with a computer printout of the outstanding ABS recommendations on the MARINE ELECTRIC and which structural surveys conducted in February 1980 could be credited toward the No. 8 special survey of hull and machinery. Included in the printout was the erroneous notation that the hatch covers had been hose tested in February 1980. The ABS technician in New York who encoded the February 1980 ABS surveyor's report mistakenly interpreted the surveyor's examination of the MARINE ELECTRIC's hatch covers as including hose testing.

The MARINE ELECTRIC was in the Jacksonville Shipyard from December 22, 1980, to February 24, 1981, which included a drydock period from January 18 to January 23, 1981. During this time, an ABS surveyor completed a drydocking survey, annual classification survey, annual load line inspection, the No. 8 special survey hull of the No. 8 special survey machinery and a cargo ship safety construction survey. In addition to the February 1980 gaugings, the ABS surveyor required additional gaugings of the main deck, the transverse bulkheads, the double bottom tank tops and other critical areas. As a result of these gaugings and inspections, some main deck plating was renewed, some wing tank sloping bulkhead longitudinals were renewed and some additional transverse bulkhead plating was renewed. However, the hatch covers were not gauged nor was the ABS surveyor aware that work was being done to the hatch covers because they had been removed from the ship. When the hatch covers were reinstalled on the ship a few days before leaving the shipyard, the ABS surveyor did look at the hatch covers and found no deficiencies. He did not conduct a hose test or any other weathertightness test because the computer printout had indicated this was done in February 1980. During this same time period, the USCG conducted a drydock inspection which included an examination of the entire structure of the vessel. The USCG inspector stated that he did not witness any repairs

to the hatch covers nor conduct any tests because hatches are not specifically covered in a drydock inspection and the repair work to the covers was done away from the ship. The hatch panels from Nos. 1, 2, 4 and 5 hatches were transported to Bellinger Shipyard, Atlantic Beach, Florida, where extensive renewals to the hatch panel stiffeners was done and new gaskets were installed on each of the panels of the four hatch covers. The repairs to hatch cover No. 3 were accomplished at the Jacksonville Shipyard. In addition to renewing the gaskets and stiffeners, 27 doubler plates were installed on the tops and sides of hatch cover panels. Two doubler plates also were installed on the dry cargo hatch forward.

After leaving the Jacksonville Shipyard in February 1981, the MARINE ELECTRIC carried coal from Norfolk, Virginia, or Baltimore, Maryland to the New England Power Service Company until February 1983 except for three periods. From August to December 1981, March to April 1982, and June to October 1982, the MARINE ELECTRIC carried grain from the U.S. and Canada to eastern Mediterranean ports.

Because the hatch covers would not open or close properly after the shipyard repairs in February 1981, MTL requested that a MacGregor Hatch Cover representative examine the hatch covers and recommend repairs. This examination and subsequent repairs took place from March 8 to 16, 1981 at Brayton Point, Massachusetts. At the conclusion of the repairs, the MacGregor representative testified that in his opinion, the hatches were still not weathertight although he did not hose or chalk test them. He said that MTL intended to achieve weathertightness by using sealing tape. About the same time the cross-joint wedges <sup>a/</sup> from all hatch panels were removed. From June 2 to 8, 1981,

<sup>a/</sup> Mechanical devices to maintain the overlapping edges of the individual panels weathertight.

the USCG conducted a biennial inspection for certification of the MARINE ELECTRIC. The Coast Guard inspector testified that the examination of hatch covers was made while they were in the open position and because the Hull Inspection Book dated June 8, 1981, did not contain any comments, the hatch covers must have been satisfactory. The USCG Inspector also stated that this was the only MacGregor type hatch covers that he had ever inspected.

On July 1, 1981, the MARINE ELECTRIC grounded at the New England Power Service Company. A diver's survey was made and witnessed by ABS, USCG, the alternate master and the chief engineer. There was no internal damage but the divers found paint disturbed on the hull from the stem aft for about 130 ft on the port side of the bottom plating. On February 24, 1982, ABS conducted an annual hull survey, an annual machinery survey and an annual loadline inspection. All hatch covers; other weathertight closures and the cargo holds were found in satisfactory condition. The ABS surveyor stated that he did not note nor was he advised that the day before two doubler plates had been installed on the main deck between several hatches; a 3 ft x 3 ft x 3/8 inch doubler between Nos. 2 and 3 hatch and a 4 ft x 7 ft x 3/8 inch doubler between Nos. 5 and 6 hatch. On March 4, 1982, 8 days later, a MTL port captain attended the MARINE ELECTRIC at Brayton Point, MA. to prepare the vessel for the carriage of grain and reported numerous wasted holes in the hatch covers. To repair them the MTL port engineer had 84 doublers installed on the hatch cover panels and four doubler plates installed on the main deck. On March 20, the 180 new cross-joint wedges for the hatches covers were delivered to the vessel; however, they never were installed. On May 9, 1982, a MacGregor representative again visited the ship because the crew was having difficulty opening No. 3 hatch. The MacGregor representative recommended replacing the first panel on the hatch which had sagged due to severe wastage. (This

panel was replaced in November 1982.) On May 29, 1982, a MTL port engineer noted an additional 12 holes in hatch covers and 3 holes in the main deck that required repairs and between June 14 to 18, 1982, doubler plates were installed over the holes at Brayton Point. On June 18, 1982, the USCG conducted a reinspection of the MARINE ELECTRIC and noted no problems with the hatch covers or hull structure. The Coast Guard inspector said he did not inspect the hatch covers because the crew was "getting ready for their annual loadline survey, and ABS would normally take care of checking those particular hatches and things."

During September 1982, MTL prepared preliminary specifications in anticipation of drydocking and repairs to be performed in February 1983. The preliminary specifications included an item for 15 doubler plates for the hatch covers. During October 1982, New England Power Company asked MTL if the MARINE ELECTRIC could continue to carry coal through February and March 1983. For MTL, this meant that the required February drydocking of the MARINE ELECTRIC would have to be delayed. On November 30, 1982, the MacGregor representative, who supervised the installation of the new panel on No. 3 hatch cover, wrote a report which contained the following:

OBSERVATIONS: During a visit to the vessel in March of 1981, I noticed that panels on No. 3 hold were in poor condition, i.e., being distorted and having wasted area on the main beams. They have deteriorated badly in the interim. At present the coamings have holes in the wheel tracks, and are so wasted that there is no strength left to support the [weight] of the panels without further distortion. The coaming compression bar is badly scaled and wasted such that it should be renewed. The

falling tracks are likewise weakened, wasted and damaged. The rising tracks have slopes of uneven angles and are distorted; in addition, they are weakened so as to flex and distort easily. The panels themselves are in an even more serious state of decay. The top plates are weak, wasted, buckled and holed in many places. The cross joint wedges are all [missing], which is a serious omission and although the wedges are onboard, the state of the panels is such that extensive welding on them could lead to further rapid deterioration. There are heavy deposits around and on the panels where hatch tape is used. The rubber gasket channels are of an incorrect size (required during past repairs) and do not fit correctly to the adjacent panels. The distortions in the panels are such that fore and aft bowing precludes the side rubber from seating on the compression bar. To compound this problem the side skirts bend inboard and foul the compression bar and transverse sag causes problems at the cross joints and on the coaming back. The panels on the remaining hatches appear to be in a similar condition. A judgment as to the seaworthiness and cargo protection capabilities of these panels must be examined in conjunction with the ship's Classification Society to fully determine their exact state with an eye to the duration of further use, if any.

The panels should be removed, grit blasted and inspected. Those that are salvable should be repaired; those that are not, should be renewed. The coamings should be grit blasted so that wasted and weakened areas can be identified and renewed.



The panels are large, heavy and therefore costly. To replace all 34 at one time and make the corrective repairs to the coamings would require the outlay of a large sum at one time. An alternative would be to carry out the repair one hold at a time, spreading the cost over several voyages.

MacGregor Services intends to present an estimate for both of the above options in due course for your consideration.

On December 2, 1982, a MTL port engineer attended the MARINE ELECTRIC at Norfolk, Virginia and noted in his report:

The crew is presently in the process of chipping, scaling, and painting the hatch covers. In this process, the top plating of the covers becomes holed in many cases, especially along the welding of the frame beams, where new beams were welded onto existing plating. Such wasted and holded areas are being temporarily repaired with epoxy cement.

The chief mate was requested to make a record of all such wasted and holed areas, indicating approximate sizes and location for our evaluation and finalizing the relevant items of the shipyard repair specifications.

In reference to the above, the Master stated that Mr. M. Graham of MacGregor indicated to him, in the course of adjusting the new hatch cover panel, that MacGregor might be able to supply a number of hatch

cover panels at a low price of approximately \$12,000 each, if substantial order was placed. In view of costs already incurred in repairing the hatch covers, such offer, if upheld by MacGregor, is obviously attractive. The next panel that is now recommended to be renewed is the forward one of No. 4 hatch, as it is sagging.

On December 27, 1982, MTL wrote the USCG a letter requesting a deferment of the required drydocking date from February 22, 1983 to April 1 to 15, 1983, because New England Power Service Company had requested that the vessel remain in service to April 1, 1983. After the USCG conducted a special inspection, an extension of the drydocking requirement was granted on January 6, 1983. The extension stated that during April 1 to 15, 1983, the drydocking was to be performed. During December and January, the chief mate compiled a series of sketches showing the areas on the hatch covers which needed repair. The sketches which showed 95 areas of wastage were sent to MTL New York office in early February. These areas were temporarily repaired with epoxy by the ship's crew to maintain the weathertightness of the hatch covers. On February 2, 1983, the MARINE ELECTRIC sustained a 4 inch x 1 inch hull fracture in the No. 1 upper port wing tank while a shoreside bulldozer was being lifted by a crane. The alternate master had a cement box installed in the tank over the damage. He requested that MTL have the fracture repaired but it was not nor was this fracture reported to ABS or USCG as required.

MTL records show that during the period from the last drydocking to the sinking of the MARINE ELECTRIC on February 12, 1983, there were numerous repairs made to the cargo holds. These repairs were the result of damage caused during the offloading

of coal. MTL considered these repairs temporary and did not report them to ABS or USCG. The alternate master, who left the MARINE ELECTRIC on February 9, 1983, testified that even though the ship's hatch covers had some defective dogs, some gaskets that needed repair, and panels with temporary epoxy patches, the hatch covers were weathertight when he went to sea. The only exception was the after panel No. 5 hatch cover which he specifically requested that some holes not be patched so the MTL port engineer could observe the general condition of the hatch covers. Although the chief mate never found any water in the cargo holds at the finish of a sea voyage, he believed that the hatch covers were not weathertight because the gaskets were ineffective.

### **STATEMENT OF REAR ADM. WILLIAM BENKERT, PRESIDENT, AMERICAN INSTITUTE OF MERCHANT SHIPPING**

Mr. HUGHES. Admiral, as I understand it, you do not have an opening statement—at least, a prepared statement, but we would welcome any opening remarks you'd want to make and, in that context, you might want to give us your views on the Philadelphia Inquirer story which arrived basically, as you know, at the conclusion that the maritime subsidies have, in fact, led us down this primrose path to where we have an aging fleet, unable to compete in general terms with other maritime nations.

Admiral BENKERT. Thank you very much, Mr. Chairman.

As you mentioned, I do not have a prepared statement, sir, but I'd be happy to answer questions and, since you've started them off, Mr. Chairman, I guess the first question you asked was relative to the Philadelphia Inquirer.

Mr. HUGHES. Yes, I'd just like your reaction to the story. I trust you've read the story.

Admiral BENKERT. Yes, I have, Mr. Chairman, and I think—for a newspaper story of this type, I thought it was very well done.

Most of them, I think, are very poorly done in this area, but I think this particular one—I felt that the reporters had really done a pretty good research job and that there was a good deal of thought-provoking comment and content, Mr. Chairman, in that particular article. I think this is unusual in the newspapers but, nevertheless, in this case—[laughter]—I thought it was a pretty good job.

Mr. HUGHES. You thought it was fairly balanced?

Admiral BENKERT. I thought there was a reasonably balanced presentation.

Mr. HUGHES. Did you agree that the conclusions that were drawn had some relationship to the facts developed by the investigative reporters?

Admiral BENKERT. I don't recall all of the conclusions specifically, Mr. Chairman, but my general appraisal of the article was that it did portray with some accuracy some of the situations that we have existing today, particularly regarding problems with older vessels, sir.

Mr. HUGHES. On that score, what, in your judgment are the economic considerations that caused the U.S. merchant fleet to become by far the oldest of major maritime fleets?

Admiral BENKERT. I would say, sir, primarily the inability to be competitive in foreign trade. We have not been able to compete with foreign-flag vessels because of their lower cost of building, their lower cost of operation, and, in some cases, the subsidization of foreign flag fleets by their flag states.

Mr. HUGHES. Do you see any developments on the horizon that would suggest an alteration in national maritime policies or economic conditions which would have the effect of reducing the present incentives for maintaining extremely old vessels in our fleet?

Admiral BENKERT. Well, I think this morning, Mr. Chairman, Admiral Shear very aptly put forth some comments on the scrapping of older vessels that was being done today. In the case of tankers, particularly, the Port and Tanker Safety Act, has certainly led to the appraisal by a number of shipowners as to just what they would or would not do with some of the older vessels in terms of keeping them operating in the future under a more—let's call it having to renovate and, in some cases, retrofit the vessels.

I think this act is automatically getting rid of a number of older vessels that are in the U.S.-flag fleet today.

I think, unfortunately, Mr. Chairman, what is also getting rid of our vessels is, again, the competitive aspect. Our U.S. fleet is dropping continually in terms of number of vessels and this is a real problem, obviously, for the maritime industry apart from a safety issue, sir.

Mr. HUGHES. In your judgment, is it ample to rely on the marketplace to eliminate some of the rust buckets from our inventory?

Admiral BENKERT. No, sir. I would say not. I think that we should rely on, oh, what I would call a combined effort, Mr. Chairman, on behalf of responsible vessel owners, responsible personnel aboard ship, the U.S. Coast Guard and, in the case of most U.S.-flag vessels, the American Bureau of Shipping.

I think that the real approach, Mr. Chairman, to older vessels in our fleet, as far as safety is concerned, is a combination. Most of our owners—and I say all of our owners—I know the owners that are members of the American Institute of Merchant Shipping, which I represent here today. These owners are responsible, reliable people and they are not going to send a ship out to sea that they know is an old crock that is going to sink. They want to take care of their vessels. I think the U.S. merchant marine needs their efforts and it needs the efforts of the regulatory and classification bodies to ensure that the ships are maintained, examined, inspected and operated in a safe manner. And I would also add, Mr. Chairman: I think that, you know, the term "rust buckets" which you used a moment ago—I think this is probably a valid term; I've called a lot of ships rust buckets and worse myself.

I've inspected ships that were worse than rust buckets. But I do think that there has been an undue emphasis, perhaps, on age of vessels.

We do have an older fleet in the United States today, for some of the reasons I've already mentioned earlier and certainly Admiral

Shear has mentioned this morning. But, just because a ship is old, it does not mean it's a lousy ship. There are a number of older vessels that are very well maintained. They are operated well; they are manned by good people and these are safe ships.

And, as I think Admiral Shear also said earlier today, anybody that's been to sea knows that, if you have a fairly new ship and you don't take care of it, it can go bad pretty rapidly.

Mr. HUGHES. I think the difficulty is that the older ships need a little more repair. The older ships become a little less productive, and, when we have a surplus of ships—as has been the case in some sectors—with older ships, with profit margin not being what it is, it's unfortunately more persuasive to let it slip a little further in order to continue a business that might be marginal to begin with.

Isn't that part of the problem? Older ships do require more care.

Admiral BENKERT. No doubt about it.

Mr. HUGHES. And it's more difficult, competition being what it is, to provide the kind of repairs.

Admiral BENKERT. Yes, sir.

Mr. HUGHES. The attitude of using a bandaid when, often, a tourniquet might be—

Admiral BENKERT. There's one other aspect, Mr. Chairman—

Mr. HUGHES [continuing]. The cure.

Admiral BENKERT [continuing]. If I may say so, on the older ships. When you have an older ship—a U.S.-flag vessel today, of course, it has been amortized. The capital costs are gone with the older vessel and, obviously, for an owner to try and stay in business in many cases, it pays him to continue operating that older vessel provided—and I say this very strongly—provided that it's a safe vessel and can be properly operated.

It pays him to operate the older vessel, rather than try and replace it at today's cost.

Mr. HUGHES. But isn't that the problem—trying to determine when it's safe?

Admiral BENKERT. Yes, sir. But that's why, in my opinion; and obviously, I'm biased. My background was as a Coast Guard officer and I spent a great deal of time in the marine safety business while I was on active duty in the Coast Guard.

I feel that the Coast Guard does an excellent job of the inspection of thousands of vessels during the course of a year. You hear of problems here and there with one or more vessels, and I'm sure that this type of thing would happen in any business but, basically, I think the Coast Guard does an excellent job and I think our safety record of our U. S. flag fleet would bear this out, sir.

Mr. HUGHES. I quite agree. I quite agree.

The gentleman from New Jersey.

Mr. FORSYTHE. Thank you, Mr. Chairman.

Thank you, Admiral.

Admiral Shear said this morning that there is no authority under existing law to take action against the owner of a ship for safety defects. Should there be this kind of legal authority?

Admiral BENKERT. No, I don't believe so, sir. And my answer—the reason I give you that answer, Mr. Forsythe, is, if an owner has a poor vessel, the Coast Guard can lift the certificate of inspection

of that vessel and, if the owner will not get it into the type of condition—the type of shape that the Coast Guard feels is necessary to comply with law and regulation, the Coast Guard can lift the certificate of inspection and the owner is out of business; he can't operate that ship.

I personally happen to feel that that's a pretty good club, Mr. Forsythe. I've used it myself in the past when I was in the Coast Guard, and it does wonders.

Mr. FORSYTHE. Well, I'm sure it does if it's utilized always, and I guess the only thing that we are searching for is: that's an all-or-none situation.

And are there the mitigating circumstances where lifting the certificate is too harsh and we need something else?

Admiral BENKERT. I think perhaps—are you referring to the penalty provisions, Mr. Forsythe, that have been contemplated by H.R. 3486?

Mr. FORSYTHE. Yes.

Admiral BENKERT. Well, I looked at them very closely, sir, and I do think in several cases—I think, for example, the penalty for operating without a certificate of inspection—I think this should be a very stringent penalty on the owners of vessels.

I do think, however, that they are—and I had hoped, before the legislation goes further, Mr. Chairman, perhaps to be able to discuss this with the committee's staff—I think there are a couple of penalty provisions in here that are inordinately strong for what they cover. For example, there are a couple of penalties, I think, of \$5,000 a day that would be applied for not having a proper life preserver aboard the vessel.

I'm stretching this, sir, but I do think there are a few penalties that should be closely looked at, but I would certainly agree with the intent of what is in that proposed statute, sir.

Mr. FORSYTHE. Could you suggest any other things that might be done to encourage shipowners to place greater emphasis on safety-related maintenance?

Admiral BENKERT. Well, I don't think any penalties of this type—

Mr. FORSYTHE. I'm talking about other than these.

Admiral BENKERT. Other than these? No, sir. I don't think I have any strong suggestions in that vein, except that I really do believe that the shipowners—and I'm not speaking just for the members of the association that I represent—I think the shipowners obviously want safe ships just as much as everybody else, sir. I think the problem comes in with the economic aspects of maintaining vessels, equipping vessels, and so forth.

And I think one of the things which I know that shipowners are very much concerned with—and this, of course, goes back to a competitive aspect, is that the ship owner dealing with vessels that engage in international trade would naturally prefer to see regulation, requirements, things that he has to take care of on his ship which cost him money—he would far prefer to see this internationally achieved. For example: through the International Maritime Organization, through the SOLAS Conventions, through the MARPOL conventions, rather than have unilateral United States

requirements on U.S.-flag vessels which present a problem sometimes economically, sir.

Mr. FORSYTHE. Well, I can appreciate that. It's a little difficult sometimes to get our international organizations to move as fast as we might like them to.

Admiral BENKERT. Yes, sir.

Mr. FORSYTHE. I'm wondering—and this is outside of this committee's jurisdiction, but are the writeoffs or the expenses of these maintenance measures adequate in terms of the tax laws? Is this an area that is something that should be looked at?

Admiral BENKERT. I would imagine it is, Mr. Forsythe.

Mr. FORSYTHE. Well, some of these expenses, I know, would have to be capitalized and can't be—

Admiral BENKERT. That's right.

Mr. FORSYTHE [continuing]. Written off, as a current expense.

Admiral BENKERT. Obviously, tax problems are another factor in our U.S.-flag merchant marine problem, sir.

Mr. FORSYTHE. Well, I'm sure you couldn't really respond to that, perhaps, right here today, but I'm wondering if you had any suggestions in that area at some point that we ought to be looking at in regard to that, I would appreciate them if you could forward them to the Committee.

Admiral BENKERT. Thank you, sir.

Mr. FORSYTHE. And the suggestion that you would like to discuss some other matters in this legislation with staff, I think, is a good one. Thank you.

Thank you, Mr. Chairman.

Mr. HUGHES. The gentleman from Massachusetts.

Mr. STUDDS. Thank you, Mr. Chairman.

Admiral, I have the usual learned and sophisticated and professional questions here, but what I really want to ask you is what your salty alternative preference for "rust bucket" is?

Admiral BENKERT. Well—

Mr. STUDDS. Perhaps we should turn the microphone off. [Laughter.]

Perhaps I'll ask you later. I just wanted you to know that I really did want to ask—

Admiral BENKERT. Well, there is another term, Mr. Studds.

Mr. STUDDS. I'm sure of that. [Laughter.]

Admiral BENKERT. I don't think you want it on the record.

Mr. STUDDS. No, no, no. We'll go off the record later with that.

I know that you recall as well as many of us do the *Argo Merchant*. And, for me—I'm going to get at some of the things that I think Mr. Forsythe was getting at a moment ago—perhaps the single-most frustrating issue which emerged from that episode involved the ownership of that vessel. As you remember, I'm sure, the *Argo Merchant* was owned by another company, called Thebe's Shipping, which was owned, in turn, by a company, which owned seven similar single-ship companies identical to Thebe's Shipping. Each of the ships operating under that agreement—that arrangement—was 30 or 40 years old.

Each had been bought and sold several times before and each flew the Liberian flag. I remember at the time that many members of Congress, myself included, were determined that all ships

coming into U.S. ports would be required to meet U.S. standards for construction and operating safety.

Now, we take a look at the T-2 tanker fleet of Marine Transport Lines, the owners of the *Marine Electric*. The *Marine Electric* was 39 years old. It had been bought and sold twice before.

The *Marine Eagle*—another MTL ship—is 39 years old. It has been bought and sold three times.

The *Marine Duval* is 38 years old. It has been bought and sold four times.

The *Marine Floridian* is 39 years. It has been bought and sold once before.

The *Marine Texan* is 38 years old. It has been bought and sold twice.

And the *Marine Chemical Transporter* is 40 years old and has been bought and sold four times before.

I do not mean to single out, in the way this might sound, Marine Transport Lines. And I have not come to the point—I don't think—where I'm going to suggest that we scrap our system and simply require U.S.-flag ships to meet Liberian safety standards.

But I am concerned about the similarity in pattern between the MTL fleet and that which we saw with respect to the owners of the *Argo Merchant*. It seems to me that, if a vessel is sold three or four times, there probably is a reason for that.

Six years ago, we might have nodded cynically and said that the resting place for rust buckets, for want of a better word at this moment, would almost inevitably be the Liberian- or Panamanian-flag fleets.

Have we come to the point where the resting place for rust buckets, the depository for ships no one else wants, is the American flag fleet?

I've been convinced since the *Argo Merchant* incident that vessel ownership is a central determinant of marine safety and Mr. Forsythe and others have been trying to get at this.

The *Argo Merchant* was operated, as you well know, in such an incredibly incompetent manner that I don't believe anyone centrally involved in the ownership or management of that ship should be permitted to continue to own or operate ships in U.S. waters.

I want it clear that I do not equate Thebe's Shipping with Marine Transport Lines. I think MTL, whatever its faults, is a far more professional and responsible operation.

But, specific cases aside, do we have anything in present law, which would protect us against genuinely irresponsible ownership?

I ask this, keeping in mind the fact that the Coast Guard and ABS testimony last week indicated to us that we cannot always count on those organizations for adequate protection. The vessel owner is always going to have to bear the ultimate responsibility for operating and maintaining a safe vessel.

I guess what this boils down to is: I'd like to know, in your judgment, whether, in saying this, I'm overreacting or whether you think the Congress has to look seriously at proposals to increase owner liability and at devising some method of banning those owning chronically unsafe ships from owning or operating vessels in U.S. waters.



Admiral BENKERT. Well, I just don't know, Mr. Studds. My feeling—my initial feeling is that the need and the approach that should be taken is at the vessels themselves because we've got a good handle on the vessels themselves in a good, practical sense.

We inspect the vessels. We look at them. The Coast Guard licenses; the personnel that man the vessels. I think we've got a good handle in that respect on the vessels themselves.

Mr. STUDDS. Recent history, you must concede, demonstrates that that's rather an imperfect handle.

Admiral BENKERT. Well, I wouldn't really agree with that, Mr. Studds, because I think—you say recent history. Yes; we've had some casualties, but I think, again, the safety record of our U.S. flag fleet is basically a good one. It certainly compares favorably with other countries' safety records if you want to look at that as a criterion.

But, just looking at our own transportation, to me—this is like, well, if I can make a simile, sir, as a seaman, it's like pilots aboard ship. You know, when one pilot screws up somewhere, you read about it in the papers and you read all sorts of things about pilots, but what people forget is that the pilots in this country make thousands of transits a year—no problems, no squawks, no nothing.

But you don't hear about them. You hear about the one instance where perhaps a pilot may be in error in judgment or something else, but—he runs his ship into a bridge and I think they get unfairly tarred with this and I think, in the case of U.S.-flag ships—I would like to say again, Mr. Studds, without hopefully being redundant, yes, you've got a lot of older ships but, if the ships are properly maintained; you've got a responsible owner, a lot of the older ships are excellent ships, and I don't think you can just fault them on that basis.

As far as attacking—I think your comment was. Is there some way to get a handle on an owner who has a continually bad record? I think that was what you were driving at, sir, as far as ships are concerned. And I don't know.

I just have some difficulty with this because, frankly, I don't think we've got that situation existent in our U.S.-flag fleet, for one thing. And I haven't given that a thought that would be desired, sir.

Mr. STUDDS. Well, I don't want to get into an argument with you for a lot of reasons, not the least of which is that your vocabulary is saltier than mine, but the questions that prompted this—the concerns that prompted this were raised, as I'm sure you'll recognize, by the testimony last week by the Coast Guard itself and by the ABS. Both sets of testimony giving members of the subcommittee, I think, reason to ask questions very much like the ones that you've been getting.

Let me just ask you one final thing. I know time is growing short here. One of the major results of the series of tanker accidents which occurred in the winter of 1976-77—and, as you recall, those kinds of tankers have a distressing habit of coming ashore very close to my district—was the negotiation of the International Convention on Standards of Training, Certification, and Watchkeeping of Seafarers of 1978. That Convention has been ratified by most major maritime countries.

It was developed in response to a recognition that 80 percent of all maritime accidents result from human error. In 1977, the head of the Marine Safety Office of the Coast Guard which, being interpreted as you in uniform, predicted before this subcommittee, "This convention, I am sure, will receive a very broad approval of all of the nations in the seagoing business."

Admiral BENKERT. Yes, sir.

Mr. STUDDS. You know the question. Why hasn't the United States ratified this Convention?

Admiral BENKERT. Yes, I think—

Mr. STUDDS. And do you think it's important that we do so?

Admiral BENKERT. Let me put it in reverse if I might, Mr. Studds. Yes, I think it's very important that we do so because, at the moment, almost every other major maritime country in the world has, in fact, ratified this Convention and I think the United States, in not ratifying it to date has been derelict, as in the past, generally speaking, as far as ratification of internationally agreed upon Conventions is concerned.

We've been quite slow. And, in the case of the STW Convention which, as you know, I had the great privilege of heading up the U.S. delegation to that conference—I think the reason it hasn't been ratified to date is because there have been some problems and, admittedly, valid problems, with some of the requirements of the Convention as far as our smaller tonnage vessels are concerned. Mr. Studds, to my knowledge within the last year the Coast Guard has, I think, very satisfactorily resolved these problems with that section of the industry that was most affected by this and I think we are in a position to ratify this Convention and we ought to do it tomorrow.

Mr. STUDDS. I appreciate that. Let me just say that it is obviously unfair of me to pick the only prediction of your career that was not borne out by subsequent events and if the Coast Guard has my favorite midlife update program still going and it's possible to refit former officers, I hope you will take a look at that. We could use you back there.

Thank you.

Thank you, Mr. Chairman.

Mr. HUGHES. I just have a few more questions, Admiral. In an earlier hearing, we received testimony suggesting that marine safety would be enhanced if we were to significantly decrease or eliminate entirely the limitation on shipowner liability in cases involving personal injury or death.

It suggested that such a change would cause shipowners to exercise greater care in maintaining and operating their vessels.

What's your reaction to that testimony?

Admiral BENKERT. I don't believe that, sir. My reaction is, no.

Mr. HUGHES. You don't think it would cause shipowners to exercise greater care?

Admiral BENKERT. No, sir, I think that the responsible shipowner today exerts full care in the control, the handling, and the upkeep and maintenance of his vessels. I don't think a change in liability laws, for example, is going to change what I consider the responsible shipowner's appraisal of safety in the operation of his vessels.

Mr. HUGHES. You don't think that there are members in the industry who, because of the competitive position they find themselves in, with aging vessels, take shortcuts and look at the bottom line and——

Admiral BENKERT. Well, that's kind of a tough question, Mr. Chairman. Obviously, I'm sure that there are—just like in any other business, Mr. Chairman, I'm sure that there are——

Mr. HUGHES. That's the point, Admiral; that's the point.

Admiral BENKERT. Yeah.

Mr. HUGHES. The bottom line is the bottom line of the financial statement.

Admiral BENKERT. Well, that's true, sir, but I don't believe that there are any operators in the United States today who deliberately are going to take any shortcuts which are really a major safety concern aboard these vessels. I just don't believe that.

Mr. HUGHES. Of course, and many of the vessels that have ended with tragic loss of life, if they had not, in fact, embarked at a time when the vessel was in need of major repairs, traveling in harsh weather, would probably have made another trip.

But, unfortunately, we can't contemplate all the variables that a ship is going to be faced with.

Admiral BENKERT. Well, that's just what I was going to say, Mr. Chairman. You can't contemplate the variables and we've had cases recently of probably some of the really well-designed vessels—brandnew vessels that have completely disappeared.

I could name you two of them. They are not U.S.-flag vessels, but the *Berge Varge* and the *Berge Istra* were two prominent cases of ultramodern vessels that completely disappeared. I think they have some idea of what happened to them in the way of casualty, but the sea—well, this sounds like motherhood but, the sea presents problems, Mr. Chairman, and even the new ships, well built, have some problems, but our owners are responsible and are trying to—particularly with these older vessels; I know because I've seen some of the maintenance programs that our shipowners have devised to keep these vessels up to snuff.

I think it was mentioned this morning some of our oil companies, for example—own some of these older ships—and, really, if you'd look at these vessels; you would think that they are new vessels. They've been refurbished; they've been refitted; they've been taken care of, and there's nothing wrong with those ships.

And, by the way, T-2's, as a class of vessels, Mr. Chairman, once they got over the structural problems with them, they have proved to be, over the years, an excellent vessel. They've had a great powerplant on them, and they've done a good job for the United States.

Mr. HUGHES. I suspect that your point is well taken and those owners that do maintain their ships would not be penalized. It would be those who, for one reason or another, use the economic reason; decide to take shortcuts, which leads to tragedy that would be penalized by that type of an increase in liability.

Admiral BENKERT. Well, I would just hope, Mr. Chairman, we catch those ships. We've got a classification society; we've got the Coast Guard; we've got the licensed personnel aboard. I hope that we would catch those ships and, if they are not good, take the cer-

tificate of inspection off of them. That's the best cure in the world for anybody that runs a lousy ship, because that's it.

Mr. HUGHES. Just a couple of other brief questions. What is AIMS' opinion concerning a vessel owner being required to notify the Coast Guard at least 60 days before the vessel's certificate of inspection expires? Do you have any problem with that?

Admiral BENKERT. No problem with that, Mr. Chairman.

Mr. HUGHES. What's AIMS' opinion concerning the requirement that vessel owners notify the Coast Guard when more than 48 hours have elapsed since the owner has heard from a vessel?

Admiral BENKERT. With our owners' vessels, Mr. Chairman, we have no problem with that, but I can see where some vessels, due to location, type of vessel, communication capability—conceivably, it might create a—if every time a ship hadn't reported for 48 hours and the Coast Guard heard about it, I could see where they might have airplanes up all over the world in a hurry unnecessarily, Mr. Chairman. I think that needs to be looked at, sir.

Mr. HUGHES. But you would, with reservations——

Admiral BENKERT. Essentially, the concept, with——

Mr. HUGHES. What's AIMS' opinion about the present \$500 one-shot penalty for violating the Coast Guard inspection law?

Admiral BENKERT. Well, I think, Mr. Chairman, obviously, this is——

Mr. HUGHES. Is it adequate?

Admiral BENKERT. That's kind of a ridiculous penalty. I think—as I said earlier, I think the penalties that are contained—the concept that's in this proposed legislation are really very good.

I do think there are a couple of penalties that should be looked at because they are somewhat stringent and could be applied by the Coast Guard or—and I'd like to mention this, if I might in a moment, Mr. Chairman, but—by the Coast Guard, perhaps, unfairly. The scope of coverage of some of these penalties, I think, is a little extensive for what they could cover, sir.

Mr. HUGHES. H.R. 3486 suggests a \$5,000 penalty in certain instances. Do you feel that's a little more realistic?

Admiral BENKERT. Yes, I do, basically, Mr. Chairman. Yes.

Mr. HUGHES. OK.

Do any of the members have anything?

Admiral BENKERT. Mr. Chairman?

Mr. HUGHES. Yes, sir, Admiral?

Admiral BENKERT. Could I just add one thing while you are looking at the specifics of this bill, sir?

Mr. HUGHES. Yes.

Admiral BENKERT. There's one thing that bothers me in here. I realize that there are a number of statutes that already have this kind of language in them, but in this bill which deals so specifically with Coast Guard responsibility and Coast Guard activity—you know, the reporting to the Coast Guard and the penalty action and so on—all having to do with the certificate of inspection issued by the Coast Guard, I would just like to bring the point up, sir, of: I personally don't like to see all the terminology in here dealing with the Secretary of Transportation and the Secretary of the Department.

I have a reason for that, Mr. Chairman. I know you think this is parochial in view of my background and maybe it is, but I think that you have perhaps a tendency in this statute, unless the Secretary delegates this authority to the Coast Guard, I can see another bureaucratic layer developing here between the shipowner, the Coast Guard and the Department of Transportation. And I object.

Thank you, sir.

Mr. HUGHES. Well, I understand. And I understand your concern. The gentleman from Louisiana.

Mr. TAUZIN. No, sir.

Mr. HUGHES. Well, Admiral, we certainly appreciate your testimony. We admire your usual candor, and you've made significant contributions here today and we appreciate it.

Admiral BENKERT. Thank you, Mr. Chairman.

Mr. HUGHES. Thank you very much.

[The following was submitted:]

AMERICAN INSTITUTE OF MERCHANT SHIPPING,  
Washington, D.C., August 5, 1983.

Hon. WALTER B. JONES,

*Chairman, Subcommittee on Coast Guard and Navigation, Committee on Merchant Marine and Fisheries, U.S. House of Representatives, Washington, D.C.*

DEAR MR. JONES: At the suggestion of your staff, I am furnishing a comment on behalf of the American Institute of Merchant Shipping relative to Section 4 of H.R. 3486 which I respectfully request be placed in the Record of the Hearing on subject Bill held on July 27, 1983.

AIMS is in favor of enactment of Section 4 of H.R. 3486; our reasoning on this subject being in concert with the oral comments voiced by RAdm. Bursley, USCG (Ret.) of the NTSB during the Hearing. Although we feel that the licensed Pilots do an outstanding job under at times extremely difficult circumstances and believe their overall safety record to be an excellent one, nevertheless we do feel that their Federal license, which attests to their competency, should be subject to review by the issuing authority (the U.S. Coast Guard) in cases where the actions of the Pilot are under review, regardless of whether at a particular point in time they were operating specifically under the authority of that License or under the authority of a State-issued Certificate.

Thank you very much, Mr. Chairman, for the opportunity to comment upon your proposed legislation.

Sincerely yours,

W. M. BENKERT, *President.*

Mr. HUGHES. Our next witness is Lieutenant Commander Kerry Sullivan, Chief of Naval Operations, Search and Rescue Model Manager.

**STATEMENT OF LT. COMDR. KERRY SULLIVAN, CHIEF OF NAVAL OPERATIONS, SEARCH AND RESCUE MODEL MANAGER, U.S. NAVY**

Commander SULLIVAN. Thank you, Mr. Chairman. It's an honor for us to appear today.

On my left is my assistant and prospective relief, Lt. Comdr. John B. Mills, and on my right is my enlisted counterpart for the search and rescue model manager, CPO Richard Sanders, who is a Navy rescue swimmer currently qualified.

Mr. HUGHES. Commander Mills and Chief Sanders, we are delighted to have you with us.

Commander, you may proceed as you see fit. You may want to, if you can, summarize for us.

Commander SULLIVAN. Thank you, Mr. Chairman. I'll summarize my statement.

Navy helicopter aircrewmembers have gone into the water to make rescues almost since the U.S. Navy first used helicopters for that mission.

And today the Navy is totally committed to the use of helicopter aircrewmembers as rescue swimmers. Nearly all helicopter commands have rescue swimmers assigned, even though there are no fleet units that have search and rescue as their primary mission.

The rescue swimmers' duties are a collateral function of their primary responsibilities and require dedicated training time in order for them to maintain proficiency.

It's common in carrier operations—in fact, it's mandatory in carrier operations, whenever feasible, and in peacetime it's done always—to have a helicopter with a rescue swimmer in a wet suit ready to deploy into the water at any time, day or night, whenever carrier operations are being conducted.

As a matter of standard operating procedure, rescue swimmers are deployed into the water in virtually every rescue made by the Navy over the ocean.

In fact, the Naval Safety Center analysis, looking at a 10-year period, showed that it was extremely crucial in the rescue of naval aviators, which is the primary mission of the naval rescue swimmer program.

We presently have two schools on each coast and we are going to single-site the training in Pensacola, Fla., which is where we're from, the first month of the next calendar year, and we are presently graduating approximately 200 rescue swimmers a year from each coast.

We have a prerequisite aircrew candidate school also located in Pensacola, Fla., and we feel that we could offer this training to the Coast Guard at a very reasonable cost. It would certainly be cheaper than having the Coast Guard initiate the training themselves, I think.

Specific numbers I have put in my statement, which are the best that we can guess at this time. Berthing space is the limiting factor right now.

In my opinion, I think that this is a very good program and would be relevant to the Coast Guard.

Mr. HUGHES. Thank you, Commander. Let me congratulate you. The program is an excellent program and you have had great success with it and we commend you and your personnel in conducting such an outstanding program. I have a couple of questions.

You are located, as I understand it, in the Panhandle of Florida. That's where your training takes place; is that correct?

Commander SULLIVAN. Yes, sir. We are assigned to a fleet helicopter squadron and our job is standardization of search and rescue.

The rescue swimmer schools themselves presently located one on each coast and other helicopter squadrons will be located—colocated with us next year.

Mr. HUGHES. How do your personnel receive training so that they could meet the conditions in harsh weather, under harsh conditions—cold and choppy seas?

Commander SULLIVAN. There's no specific training for cold weather. We outfit them with equipment that we, to the best of our ability, hope to be adequate for the environmental conditions they are going to encounter. We have some rather stiff—strict physical fitness requirements. That's an essential ingredient.

Mr. HUGHES. Has the Coast Guard talked to you or your office about the possibility that the Coast Guard would join your program or develop a rescue swimmer program or its own?

Commander SULLIVAN. Yes, sir. I've had conversations with members of the Headquarters, Coast Guard, and I know that they've also visited Pensacola, Fla., and talked to the people who will be setting up the new school there.

Mr. HUGHES. In what timeframe? Has that been recent?

Commander SULLIVAN. Spring of this year.

Mr. HUGHES. Pardon me?

Commander SULLIVAN. Spring of this year, Mr. Chairman.

Mr. HUGHES. Spring of this year. And who, in particular, has made inquiries?

Commander SULLIVAN. Dr. Steinman—Commander Steinman from Coast Guard Headquarters.

Mr. HUGHES. Did he visit your facility in Florida?

Commander SULLIVAN. Yes, sir, he has.

Mr. HUGHES. See your program underway?

Commander SULLIVAN. Yes, he has.

Mr. HUGHES. I wonder if you can describe for the committee the role of the Navy swimmer in responding to the *Marine Electric* tragedy in particular. Did that particular swimmer receive training from your program?

Commander SULLIVAN. Yes, Mr. Chairman, he did. He graduated in 1980 from a course in Jacksonville, Fla. His name is PO2c. James D. McCann. He was called on to assist along with the crew that launched from Naval Air Station, Oceana, receiving the initial call approximately 4 o'clock in the morning and they transited the 90 miles at night to the sea.

The Coast Guard helicopter on scene requested Petty Officer McCann to assist them. He was lowered into the water, 20-foot seas that night. The helicopter—the Navy helicopter backed away and the Coast Guard helicopter came in and hoisted them up into the Coast Guard helicopter in a rescue basket.

They briefed about what they intended to do. He was then lowered back into the water about 10 or 15 feet away from each victim, which they could spot, and he swam to the victim, put him into the basket and the victim was hoisted into the helicopter; they picked McCann up under the helicopter and he was transported in the basket below the helo to the next victim.

And they did that as long as he was able to.

Mr. HUGHES. You know, I recall—and as I'm sure most of my colleagues and those with you and in the audience today—the Air Florida rescue when we had the tragic plane accident here in the District of Columbia—there was no question but that it would have been of some assist to have somebody in the water during that period of time, because of the conditions that existed at that point.

I suspect that's one of the reasons why you gravitated into this program where you actually put a swimmer in the water, because

of the inability of those that are to be rescued to be able to respond to the rescue effort in a fashion that you can hoist them up into safety.

Is that, in essence, the basis and the thrust of your program?

Commander SULLIVAN. Mr. Chairman, that is—there have been baskets developed. There have been scoopnets developed as a result of that Air Florida crash. There have been developed rings that will slide around people and constrict when tension is applied to pull people out of the water, but I think all of them are poor substitutes for having a rescue-trained specialist in the water to assist the survivor.

Mr. HUGHES. In fact, one of those that died in that accident performed just that task, and was recently honored by the President. They performed the task that would be provided by one of your people on a mission of that nature. They actually assisted people in getting into that ring. I presume that, in essence, that's the task that's performed—one of assistance in the water.

Commander SULLIVAN. That's correct.

We assume—it's primarily designed for a naval aviator, and we assume him to be injured after an ejection or a ditch at sea.

Mr. HUGHES. OK.

The gentleman from New Jersey.

Mr. FORSYTHE. Thank you, Mr. Chairman.

Thank you very much, Commander. A very revealing story and certainly a very important one in terms of an advance in sea rescue, I think.

How many of your Navy's in-water rescues—swimmer rescues—have occurred in severe weather? Or is it mostly in benign seas?

Mr. HUGHES. I wonder if the gentleman from New Jersey would cease. We have a quorum call. We have about 7 minutes left to make the quorum. Why don't we ask the Commander to remain here and we'll recess and catch the quorum and come back and finish up our questioning.

The gentleman from Massachusetts.

Mr. STUDDS. I thank the chairman. I won't be able to return. I just wanted to make it very brief if the gentleman would not mind.

Mr. HUGHES. OK.

Mr. STUDDS. I had a lengthy question which you will be pleased to know you'll be spared. I just wanted to say that I was surprised and disturbed to realize that the reason—the primary reason why a Navy rescue swimmer was used was the Coast Guard does not conduct training in this area and it is not consistent with the Coast Guard's rescue policy to use rescue swimmers. This is a matter of very real concern to me and I'm sure the members of the subcommittee will subsequently pursue it with the Coast Guard.

In the meantime, thank you for what you are doing and I hope we'll be able to learn from your experience.

Mr. HUGHES. With that, the subcommittee will stay in recess for 10 minutes.

[Short recess.]

Mr. HUGHES. Commander, I believe that my colleague from New Jersey is coming back. He had some questions but hopefully he was not waylaid as sometimes happens. When you go to the floor, there's all kinds of other things you have to do. While we are wait-



ing, are there any differences in the mission of the Coast Guard and the mission of the Navy that would dictate changes in the program?

Commander SULLIVAN. Of course, the Navy and the Coast Guard have different overall missions but, when it comes down to search and rescue of persons in distress from the water, the mission is the same, and I think the training is compatible for that. I think the only differences would be minor such as different specific items of equipment. We, of course, train our naval rescue swimmers to rescue naval aviators, but I think that is something that the Coast Guard would want to do as part of their mission in support of the Navy.

Mr. HUGHES. I see in a description of your training program that you have 5 hours of grappling and tree extraction training.

Commander SULLIVAN. Yes, sir.

Mr. HUGHES. That's for parachuters; is that what that is?

Commander SULLIVAN. No, sir, as a matter of fact, we do a great deal of inland rescue from rescue units that are stationed at air stations in the West, such as NAS Lamore and Fallon, China Lake, and Whidby.

They are frequently involved in high-altitude mountain rescue.

Mr. HUGHES. Well, that would be irrelevant.

Commander SULLIVAN. No, sir, that would probably probably not be relevant.

Mr. HUGHES. Probably parachute disentanglement training would be essential to the Coast Guard mission, I would think.

Commander SULLIVAN. Parachute entanglement is a vital part of the naval rescue swimmer training to rescue an aviator in the water.

Mr. HUGHES. Yes; but it wouldn't be relevant probably to the Coast Guard mission.

Commander SULLIVAN. I think it would be.

Mr. HUGHES. You think it would be?

Commander SULLIVAN. Most definitely.

Mr. HUGHES. I see. OK.

Commander SULLIVAN. It's very dangerous. Many people are drowned under the parachutes or parachutes billow under the water and pull people below.

Mr. HUGHES. Before you went to a program where you had a swimmer in the water, I trust that you experimented with other programs in rescuing aviators, in particular, in the water.

Commander SULLIVAN. Yes, sir, the Navy did before I came on the scene. They had a net that they tried to scoop people out of the water with, but it was never made to work.

Mr. HUGHES. You've experimented with a number of different modus operandi, and have concluded that a swimmer in the water is the best procedure to extract from the water—

Commander SULLIVAN. Absolutely, Mr. Chairman.

Mr. HUGHES [continuing]. Those that you are trying to rescue. Commander, I think one of the areas Congressman Forsythe is interested in is your experience in harsh climate—severe conditions, the nature and extent of any such experience. Maybe you could share that with us, just in the event he does not get back.

Commander SULLIVAN. Yes, sir, Mr. Chairman. The Navy is very concerned because we operate frequently in the North Atlantic and the Northern Pacific. We have to outfit our rescue swimmers for all climates. We can't give them different outfits because we don't have a dedicated force. It amounts to 67 percent of all our naval aircrewmembers, so we have to be careful in what we design for them, but our experience has been that the equipment we design that Petty Officer McCann wore in the *Marine Electric* disaster is adequate. We don't specifically train for harsh weather because you can't simulate it, but we've done it the best we think we need to do so far, but we are not satisfied and we are looking more intensely into the areas of hypothermia treatment and additional equipment as it's developed.

Mr. HUGHES. Thank you.

The gentleman from New Jersey, Mr. Forsythe.

Mr. FORSYTHE. I think you've asked my question, sir. Thank you.

Mr. HUGHES. I apologize for that. We weren't sure whether you were delayed.

Well, Commander, thank you very much. Again, we commend you for an excellent program and we look forward to talking to the Coast Guard in more detail about this particular aspect of their mission.

Thank you very much.

[Prepared statement follows:]

STATEMENT OF COMDR. R. KERRY J. SULLIVAN, USN, CHIEF OF NAVAL OPERATIONS  
SEARCH AND RESCUE MODEL MANGER

Lieutenant Commander Kerry Sullivan, a native of Albuquerque, New Mexico, entered the Naval Reserve Officer Training Program at the University of New Mexico in 1967. He graduated in 1971 with a Bachelor of Arts degree in Political Science and accepted a commission in the U.S. Navy as an Ensign. He entered flight training after graduation and received his Naval Aviator's wings as a helicopter pilot in 1972. His first tour of duty was at Naval Air Station, Pensacola, Florida as a Search and Rescue pilot deploying aboard the U.S.S. *Lexington* (AVT-16).

Assigned to Naval Air Station, Lemoore, California in 1975, Lieutenant Commander Sullivan was awarded the Air Medal for a rescue in Sequoia National Park in the Sierra Nevada Mountains. In 1978 Lieutenant Commander Sullivan was assigned to Helicopter Anti-Submarine Squadron (Light) Thirty-three in San Diego, California, as the Officer-in-Charge of a LAMPS detachment aboard destroyers and frigates of the Pacific Fleet. Lieutenant Commander Sullivan became the Search and Rescue Evaluator for the Naval Air Force, U.S. Atlantic Fleet, and was assigned to Helicopter Combat Support Squadron Sixteen in 1980. In 1981 he became the Chief of Naval Operations Search and Rescue Model Manager, where he is currently serving. In that capacity Lieutenant Commander Sullivan has represented the U.S. Navy's Search and Rescue Program at NATO Headquarters and at meetings of the Air Standardization Coordinating Committee, the international military organization of English speaking nations.

During his career, Lieutenant Commander Sullivan has flown over 60 SAR missions, flying in three different types of Navy helicopters. He has graduated from the U.S. Coast Guard National Search and Rescue School, Yosemite National Park Mountaineering School, the Commander Naval Air Force, U.S. Atlantic Fleet Search and Rescue Training Course, and attended the California Office of Emergency Services Search and Rescue Management Seminar. In addition, he has served as an instructor for the National Association for Search and Rescue's "Managing the Search Function" course and as an instructor for helicopter rescue work for the Mountain Rescue Association.

As the Search and Rescue Model Manager, Lieutenant Commander Sullivan has overseen the development and standardization of the present rescue swimmer training course, the rescue swimmer equipment, and the creation of the rescue swimmer procedures promulgated in a Naval Warfare publication.

Mr. Chairman, it is an honor to appear before this committee to discuss the U.S. Navy's rescue swimmer program.

Navy helicopter aircrewmembers have gone into the water to make rescues almost since the U.S. Navy first used helicopters for that mission. The need to establish a school to train aircrewmembers in rescuing naval aviators was first apparent during the Viet Nam conflict and the first school was started in the Philippines during that time. Formal schools were begun in the United States by the end of 1970. This training was initiated and has been continually improved because of the necessity to assist downed aviators in the open ocean who are often injured or may be entangled in their parachute shroud lines. The U.S. Navy is totally committed to the use of helicopter aircrewmembers as rescue swimmers for this reason. Nearly all Navy helicopter commands have rescue swimmers assigned, even though no fleet units have search and rescue as a primary mission in wartime.

The rescue swimmers' duties are collateral functions of their primary responsibilities, and require dedicated training time to maintain proficiency. There are 1,026 billets for helicopter aircrewmembers that demand rescue swimmer training and qualification, which equates to 67 percent of all Navy helicopter aircrewmembers. About 45 percent of the rescue swimmers are Anti-Submarine Warfare Aircrewmembers and the rest are aircraft maintenance personnel who fly as aircrewmembers for other Navy helicopter missions. The Helicopter Anti-Submarine Squadrons (HS) aboard our aircraft carriers are airborne with a rescue swimmer ready for immediate water entry during all carrier flight operations, day or night.

For the five-year period from CY 1978 through 1983, U.S. Navy helicopters participated in 220 open ocean search and rescue missions, accounting for 421 lives saved. Rescue swimmers were aboard these helicopters in 212 of these missions, or 95 percent of the total flown. Rescue swimmers are deployed in virtually every rescue of persons in the water. On only three of these occasions rescue swimmers were not deployed because of safety considerations, or in less than 2 percent of the missions. There has been no record of a Navy rescue swimmer injury or death during a rescue mission.

Despite the fact that all naval aviators are trained in the use of rescue devices, they are assumed to be injured or in shock after an ejection, bailout or ditch at sea. A Naval Safety Center analysis of rescue reports over a ten-year period revealed that rescue swimmers were essential to the survival and rescue of over half of the over-water ejection mishap aircrews, since they were incapable of effecting their own unaided extraction from the water via hoist. This equates to over 140 tactical aircrews rescued who otherwise would have been lost. Also, it is vital to assist an aviator in immediately getting free of the parachute if that problem occurs. Each rescue swimmer has as standard issue equipment a wet suit, mask, fins, snorkel, rescue harness, buoyancy compensating vest (for emergencies), a knife and signaling or illuminating devices. The rescue swimmer enters the water by jumping from the helicopter while it either makes a low and slow pass or is in a hover. Another method, used at night, is to be lowered on the hoist. A wide variety of rescue devices may be utilized including a rescue net, a Stokes Litter with flotation or the "horse collar" rescue strop. The principal means of recovering Naval Aviators is by attaching the gated ring of the rescue harness worn by the rescue swimmer to the hardware provided on the aviator's survival gear.

Today the U.S. Navy operates two rescue swimmer schools, one at Helicopter Anti-Submarine Squadron One, Naval Air Station, Jacksonville, Florida and the other at Helicopter Combat Support Squadron One, Naval Air Station, North Island, San Diego, California. Each school graduates about 200 rescue swimmers a year with an attrition rate of approximately 25 percent. The schools teach the same 4-week curriculum consisting of: thirty-six hours of administration and academics; twenty-seven hours of physical training; nineteen hours of first aid training; twenty-four hours of pool training; twenty-four hours of helicopter indoctrination; five hours of rappelling and tree extraction training; and twenty-five hours of parachute disentanglement training for a total of one hundred and sixty hours.

The recurring annual cost of operating east and west coast schools is \$218,000.00 and \$160,000.00 respectively, most of which is for the initial rescue swimmer equipment issued to each student. This equipment presently costs \$1,260.00 per student. Not included are the helicopter operating costs, which might roughly be estimated to be \$75.00 per student for fuel and oil.

Prior to attending Rescue Swimmer School, aircrew candidates must first graduate from the Naval Air Crew Candidate School (NACCS) at Naval Air Station, Pensacola, Florida. This is a 5-week school that teaches physical fitness, first aid, water survival, land survival and pistol qualifications. Entry into the Rescue Swimmer School without attending NACCS requires prior certification of water survival train-

ing, Cardiopulmonary Resuscitation (CPR) and Water Safety Instructor (WSI) qualifications, advanced first aid and the physical fitness requirements. The normal Rescue Swimmer School eligibility requirements are to be a volunteer to fly, be medically fit for flight duty and be assigned to a crew status.

In January of 1984 a new school will commence rescue swimmer training, operated by the Naval Aviation School Command at Naval Air Station, Pensacola, Florida. This new school will conduct all initial rescue swimmer training after that time. The present schools in California and Florida would remain open only for refresher training and possibly to train surface ship swimmers in naval aviator rescue procedures. The cost to the Coast Guard for this single-site training in Pensacola would be \$146.00 for NACCS and \$1,384.24 for rescue swimmer school or \$1,530.24 total per student, excluding Coast Guard personnel costs and helicopter costs.

It is estimated that during fiscal year 1984, 43 Coast Guardsmen could attend the single-site rescue swimmer school at Naval Air Station, Pensacola, Florida. If NACCS is not included, 87 Coast Guardsmen could be trained there. In fiscal year 1985 through fiscal year 1987, approximately 100 U.S. Coast Guard rescue swimmers could be trained annually at Pensacola if NACCS is not included. Berthing space is the limiting factor. The Navy instructor staff should be augmented by Coast Guard personnel to provide liaison, administration and to adequately train Coast Guard specific procedures and equipment. This augment would entail one O-3 and two E-5 or E-6 personnel for the rescue swimmer school, and an additional two E-5 or E-6 personnel if NACCS is utilized.

The U.S. Navy Rescue Swimmer program is aimed at providing a Search and Rescue (SAR) capability for its own forces. The program has proven itself as vital in almost every SAR mission conducted by the Navy whether in support of Naval forces or when assisting others in distress. U.S. Coast Guard participation in this program would enhance the Coast Guard's already impressive SAR capabilities and better enable it to support U.S. Naval forces, particularly in wartime.

Mr. HUGHES. OK, our next witnesses are a panel comprised of Mr. Virgil D. Stone, International Association of Drilling Contractors, and John W. Bissell, National Ocean Industries Association.

Mr. Stone, Mr. Bissell, if you will come forward.

We have your statements which, without objection, will be made part of the record, and you may proceed as you see fit.

Mr. Stone, why don't we begin with your testimony unless you've arranged some other sequence?

Mr. STONE. All right.

[Material referred to follows:]

STATEMENT OF VIRGIL D. STONE, CHAIRMAN, OFFSHORE COMMITTEE, INTERNATIONAL ASSOCIATION OF DRILLING CONTRACTORS, AND PRESIDENT, KEYDRIL CO.

Mr. Chairman, my name is Virgil Stone. I am President of Keydril Company of Houston, Texas, an offshore drilling company which is presently carrying on operations off Australia, Africa, the North Sea and all three coasts of the United States. I am appearing before you on behalf of the International Association of Drilling Contractors (IADC). For the last two years I have been the Chairman of the IADC's Offshore Committee. Members of that Committee own more than 520 mobile offshore drilling units (MODU's) and 214 platform drilling rigs. We hope that my remarks will assist you in your assessment of the overall effectiveness and efficiency of the marine safety program of the U.S. Coast Guard in so far as that program applies to offshore drilling activities.

The Coast Guard's jurisdiction over OCS oil and gas drilling operations is derived both from the Outer Continental Shelf Lands Act and from its general maritime jurisdiction over drilling units to the extent that they are considered vessels. Based on our industry's decades of experience with the Coast Guard as a regulatory agency and our experience world-wide with similar organizations in other countries, the IADC can give the Coast Guard high marks with regard to its overall effectiveness and efficiency.

The letter inviting us to participate in this hearing stated that the Subcommittee is interested in determining whether the current statutory and regulatory framework is appropriate to minimize both the likelihood that marine accidents will occur and any loss of life. We think that it is. For instance, current Coast Guard accident reporting forms (and follow-up investigations) are helping to increase overall safety.

This is not a dramatic process illuminated by the light of blinding revelations. Even considering the relative newness of offshore drilling, progress is usually made in a slow, steady way. Data is compiled for possible trend identification or to discover possible unexpected sources of accidents, improvable response procedures and new ways to help prevent loss of life.

The IADC provides an active forum for the distribution of information derived from Coast Guard or industry investigations or research. The methods used by our Association's Human Resources Committee have evolved over forty years of industry involvement in trying to minimize both industrial and marine accidents and the associated possible loss of life.

One topic that was discussed at a recent Offshore Committee meeting may be of interest to the Subcommittee is the possibility that a drilling unit will be run into by a merchant vessel. This concern is felt most keenly by those with drilling units on leases in high vessel traffic areas such as next to vessel fairways in the Gulf of Mexico or in the Santa Barbara Channel. The Coast Guard has rules and regulations in place which control vessel traffic and prescribe the way in which vessels and drilling units must be lighted. At night, drilling units are very brightly lighted by lights necessary to carry on drilling operations in addition to the required warning lights.

Since a few incidents continue to occur, we feel some discussion of the subject will be beneficial. One company recently reported that a semisubmersible rig working on a lease near a fairway in the Gulf of Mexico experienced close calls on eight occasions in less than a year. The first incident took place during the deploying of the unit's anchors. Despite all of the activity involved in deploying the anchors and the fact that it was broad daylight at the time, a merchant vessel actually struck a glancing blow to one of the columns of the MODU. All hands on the MODU were at abandon ship stations after radio messages, flares and maneuvers by craft being used to deploy the anchors failed to arouse anyone on the merchant vessel. At the very last moment, someone did come on the vessel's bridge and managed to turn it enough so that its stern struck only a glancing blow to the MODU. Unresponsiveness from the vessel's bridge was typical of the other close calls reported by this unit. Several times vessels steamed by within the anchor pattern of the drilling unit in clear violation of safe practice. It seems likely to us that the bridges on these vessels were unmanned. Surely this would be dangerous due to the volume of vessel traffic even if the Gulf wasn't well known for the large number of drilling rigs and permanent platforms to be found there.

There should be some way in which such incidents could be reported for action by the flag state of the vessel or in the U.S. if the incident takes place within 12 miles of our coast. The IADC Offshore Committee will ask its members around the world to report such incidents to IADC headquarters on a form which will identify the location of the unit, the name and flag of the vessel and a description of the incident in words and on a map. A copy of the form I am proposing to the Offshore Committee is attached to my testimony. If our data begins to show a problem of significant dimensions, we will submit the data and recommendations for action to the Coast Guard and other appropriate governmental bodies including the International Maritime Organization.

Another subject which this Subcommittee has expressed an interest in is whether Coast Guard inspectors are adequately trained and supervised and whether sufficient information is available to them so that they can target their endeavors in an effective manner.

The Coast Guard's training of inspectors of MODU's begins in Yorktown, Virginia, where all Coast Guard inspectors are taught the general techniques of inspecting such things as pressurized systems and welds. This course includes a brief orientation to drilling units. Graduates of this 16 week course then go out to Coast Guard districts where they are assigned to inspect merchant vessels. The next step in their education is to attend a one month Coast Guard school given at The University of South West Louisiana in Lafayette, Louisiana. This course includes two weeks of classroom training in both drilling and production operations followed by two weeks offshore experience. The offshore experience is equally divided between drilling and production facilities.

This Coast Guard school is supported in every way possible by the offshore industry. During the classroom phase, industry technical experts explain the machinery and operations carried on onboard drilling units as well as the design and operation of the unit itself. Companies then volunteer to serve as host to trainees during the practical, offshore phase of the program. Every effort is made to make sure that the best possible, most complete education is given to the trainees given the limited time available. As we understand it, the Coast Guard's policy that no officer who

has not completed this course will be assigned to inspect an offshore facility. In practice it has been necessary on some occasions to send an officer who has not had offshore training but in such cases he or she is supposed to be under the supervision of an inspector who has the requisite training.

When this program was first proposed about six or seven years ago, it would have lasted longer and gone into more detail. Perhaps additional time for these trainees in the offshore segment of the school is worthy of Coast Guard consideration.

Lately, we seem to have noticed a slight change in the Coast Guard's policy of frequently rotating officers from one job to another. Officers are now assigned to duty stations for four years rather than three. They also are able to apply for one year extensions. Officers who like marine inspection and become experts in inspecting mobile offshore drilling units should, wherever possible, be allowed to stay on at that capacity. These extended tours of duty save money for the Coast Guard and promote safety.

Another manifestation of industry's interest in helping to insure the quality of Coast Guard inspectors is the offshore industry intern program. For nearly two decades, companies have volunteered to take in experienced inspection officers selected by the Coast Guard for a one year period. During that time, the officer is exposed in depth to all phases of drilling operations and management in the best way possible . . . actually participating in the work. Graduates of the program become department heads and executive officers in the Coast Guard on completion of their year offshore. They are well equipped to manage and give constructive direction to the offshore inspection activities carried on in their District.

Throughout the Coast Guard and industry training programs, there is an emphasis on practical, on-the-job training. For some reason, this sort of training seems to be suspect in some circles. I can assure you that it is the very best way to train people working in the offshore industry and to build upon the general qualifications Coast Guard inspectors bring with them.

In 1978, the Coast Guard published the results of a two year study of MODU operations. This "Functional Job Analysis of Mobile Offshore Drilling Unit Operations" (Report number: CG-D-76-78) produced detailed, standardized descriptions of the tasks required under routine and emergency conditions. Industry practices in the selection and training of personnel were reviewed for comparison with needs indicated by the analysis. In discussing the industry's personnel selection process, the authors of the report noted that offshore drilling is a unique operation and that people in responsible rig positions have moved up through the ranks. Promotion is based on experience and proven, on-the-job capability not on outside experience or the strength of academic credentials. The Report states: "Based on the task analysis and observations of the work system, it is believed that this is not simply an historical circumstance but a necessity. The combination of unique systems and equipment, unique tasks, teamwork requirements, and the working conditions creates a total system that has no counterpart." The overall system is characterized as highly flexible and personal and appropriate for the industry, including marine-related jobs. When allowed to function, this system has worked well. When national regulations, such as in Newfoundland, interfere and require the hiring of unqualified, inexperienced people, tragedy can occur.

Another issue of interest to the Subcommittee is the adequacy of the present statutory framework within which the Coast Guard functions. Also mentioned in the letter inviting us to testify is the related question of whether or not the Coast Guard has sufficient manpower and funding to do the jobs it has been given. We do not think that there are gaps in the present legislative framework within which outer continental shelf activities are carried on. In fact, we applauded the efforts of the Coast Guard and this Subcommittee in your review of the roles and missions of the Coast Guard. We thought it might result in significant changes in the laws under which the Coast Guard promulgates regulations.

There is some evidence that there are regulations and the laws upon which they are based which have shown little or no ability to aid in the avoidance of accidents. One incident in particular seems to raise this question.

About two years ago, two young Coast Guard officers who had not been through the Lafayette advanced training school visited a twenty year old submersible drilling unit in the Gulf of Mexico. They wrote up over one hundred and eighty violations. They thought they had found the most unsafe unit in the Gulf. What they had inspected was, in fact, the safest unit in the fleet of a large drilling company. The unit in question had operated for more than two years without so much as a lost time accident. If the citations were all correctly written for conditions which at least technically violated existing regulations, then it seems rather clear that those regulations could be changed to better achieve the desired results.

Perhaps the Coast Guard would be more effective if it was allowed to concentrate its limited manpower and funds on truly important areas rather than being spread thin enforcing ineffective laws.

The Subcommittee also expressed an interest in the roles of classification societies, owners and crews in maximizing the safe operation of MODU's. I have already mentioned our role in the training of Coast Guard officers. We also have extensive in-house marine safety programs and industry-approved courses.

While most courses are given on the MODUs, some, like fire fighting or blowout prevention training, are given on land at approved schools. Fire fighting and blowout prevention schools were created and put into use by the industry before they were required by any government. Our industry played a very active and positive role in the development of the International Maritime Organization (IMO) Code for the Construction and Operation of Mobile Offshore Drilling Units and the United States' version of that Code (46 CFR 107, 108, and 109).

Through its Offshore Industry Advisory Committee, we assisted the government of the Republic of Panama in the adoption of the IMO Code. Our organization recently sponsored The Symposium on the Safety of Life in the Offshore Industry with the Scripps Oceanographic Institution. Our Human Resources Committee held a three day conference on offshore safety and training issues last week in Houston. We recently concluded two years of work by finalizing a set of guidelines for the sizing of D.C. electrical cable on MODU's. IADC and individual company programs have made contributions to safe operation of MODU's in design, maintenance and all phases of operation of all types of units.

The role of classification societies was enlarged when the Coast Guard entered into its memorandum of understanding (MOU) with the American Bureau of Shipping (ABS). The ABS is a world-wide organization with high standards. Its surveyors' competency is recognized around the world by the insurance industry, the maritime industry and by governments. For instance, the government of the United Kingdom authorizes ABS surveyors to issue certificates of compliance with British law which are required before a MODU can be moved into British waters. Obtaining the certificate may involve such complicated procedures as inclining the MODU Coast Guard reliance on ABS surveyors under the terms of the MOU will have no adverse effect on safety and certainly will save money for the government. ABS presence around the world actually makes it quicker and easier for the assigned functions to be carried out. The scheduling difficulties, the expense and complicated logistics of getting Coast Guard officers away from their duties in the United States and into distant locations around the world are eliminated for the most part. Thought should be given as to whether or not safety could be enhanced by identifying areas of the world in which ABS surveyors could be employed to do additional work on behalf of the Coast Guard.

The Subcommittee has also requested our views on whether any lessons can be learned as a result of the loss of the Ocean Ranger. The marine safety record of the offshore drilling industry is very good and has shown a downward trend over the years even though ours is a new industry compared to other maritime endeavors. Semisubmersibles have had an exceptionally good record. One practical proof of this is their extremely low insurance rates. Even though we have an excellent record, I can say that the known facts and inferences that can be made about that accident have already served as a catalyst for industry activity. I can state to you that I am sure that there is no owner of a semisubmersible MODU that has not examined his ballast control system, its controls and backup or emergency procedures. Where necessary, operating manuals have been changed and training programs modified. This self-analysis started soon after the accident.

Ballast control training programs which existed in-house are being strengthened and new courses are being developed by educational institutions and training organizations. The use of computer-controlled ballast control simulators constitutes a significant step forward.

The Offshore Committee and Human Resources Committees of the IADC are cooperating in an effort to identify basic principles of ballast control which would be applicable to all designs of semisubmersible MODUs and could be used as the core document for basic programs in ballast control. Input has been obtained from various drilling companies as well as private personnel training companies. The University of Texas Petroleum Extension Service has taken the results of this input and is preparing a course outline which will be submitted back to the IADC before the end of August. There will then be a time for the IADC Committees involved to review the work and a decision will be made on how to proceed. It seems likely that the material will find acceptance in a wide variety of training programs.

The use of ballast control simulators at an appropriate stage in training programs is emerging as a tool for allowing a trainee to get hands-on experience in dealing with ballast control problems.

Two commercial sources for simulators presently exist. Also, drilling companies have developed their own simulator to augment its present training program. The simulators are connected to replicas of the full ballast control board found on the design of semisubmersible operated by the owner's company. The sizes of the various ballast tanks, pump size and other characteristics of the MODUs design are programmed into the computer along with various environmental and mechanical parameters along with various environmental and mechanical parameters which could give rise to an emergency. Video monitors using computer-generated, 3-D graphic representations of the attitude of the MODU are used at early stages in the training to help the trainee visualize the effects of his manipulation of the ballast controls. Later, the trainee is taught to rely on the inclinometers and other instruments which are standard equipment on MODU's.

It is important to note that we cannot envision one course that could result in its graduates being sufficiently capable to take over responsibility for the operation of the ballast system on all MODU design types. Even where a simulator is designed to mimic the responses of the very type of MODU on which the trainee has been serving, the final stages of training would be carried out onboard a MODU under the supervision of an experienced ballast control operator.

The loss of the Ocean Ranger has focused attention on the adequacy of various parts of the total safety and preparedness system found on each MODU. The IADC has commented in response to a Coast Guard Notice of Proposed Rulemaking on the subject of exposure suits. A copy of our comment has been submitted along with this statement for the information of the Subcommittee. In summary, the IADC believes that the following points should be addressed and amended in the final rulemaking:

1. Apply exposure suit carriage requirements without discrimination to vessels and units having similar lifesaving systems and operating in, on, or traversing the waters specified in the Proposed Rules.

2. Require the number of exposure suits to be carried on board MODU's to be 100 percent of the berthing capacity of the unit.

3. Require exposure suits to be stowed within the quarters or berthing area on MODU's.

4. Require exposure suits to right an unconscious or limp person from a face-down to a face-up posture and to meet all other applicable specifications for qualification as Coast Guard approved Type I—Personal Flotation Devices.

5. Permit carriage of exposure suits in lieu of life preservers (or other types of Personal Flotation Devices not providing thermal protection) aboard MODUs and other Ocean-going and Coastwise Vessels not carrying passengers for hire in the designated waters.

6. Make meaningful effort through the Transportation Department and through the State Department to reach accord with other nations regarding acceptance of Coast Guard approved exposure suits aboard U.S. flag vessels and MODU's.

Another issue which is receiving considerable attention by both users and manufacturers is the methods whereby lifeboats are launched. The IADC Offshore Committee's MODU Design and Equipment working group is in the process of surveying members for their views on launching systems. Manufacturers and users interest in improving launching systems is not new, but the spectrum of new ideas being put forth by manufacturers around the world has broadened considerably over the last few years. We will work with the manufacturers in every way possible to encourage the development of new systems.

Although we are proud of our industry's safety record, we strive to maintain a flexible attitude which allows us to learn from the experiences of each new day. We try to keep a critical eye on all of the factors which interact to produce safe operations in the sometimes unpredictable and unforgiving marine environment. We welcome assistance from any quarter and have a long record of innovation and improvements in aspects of our operations which influence marine safety. We thank you for this opportunity to appear before the Subcommittee today and are ready to try to answer your questions.



(PROPOSED FORM)

INTERNATIONAL ASSOCIATION OF DRILLING CONTRACTORS  
INCIDENT REPORT  
MERCHANT VESSELS PASSING WITHIN TWO NAUTICAL MILES  
OF A STATIONARY MODU

1. MODU & Owners name: \_\_\_\_\_
2. Company for which drilling and identification of drilling location (block no., etc.): \_\_\_\_\_
3. Date of Incident: \_\_\_\_\_ 4. Time of Incident \_\_\_\_\_
5. Weather and sea conditions: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
6. Identity & Flag of Vessel: \_\_\_\_\_
7. Description of Incident: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- a. Distance from MODU at closest approach: \_\_\_\_\_
- b. Attempts to communicate and response: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- c. Map showing position of MODU & course of vessel: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- d. Other comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## STATEMENT OF INTERNATIONAL ASSOCIATION OF DRILLING CONTRACTORS

This comment is submitted on behalf of the International Association of Drilling Contractors (IADC), members of which own and operate virtually all U.S. flag mobile offshore drilling units (MODUs).

### SUMMARY POSITION OF THE IADC

The IADC Offshore Committee has voted in unanimous support for the carriage of exposer suits equal to 100 percent of the berthing capacity of all MODU's and other Ocean-going and Coastwise Vessels not carrying passengers for hire operating in, on, or traversing the waters North of latitude 35°N and South of latitude 35°S (excepting those waters specifically exempted in the Proposed Rules).

### ABBREVIATED REGULATORY PROCESS

The task of formulating a regulation which will maximize the beneficial impact to be realized from the use of any evolving type of lifesaving appliance is a complicated matter. Numerous questions arise which should be explored in depth before a final rule is promulgated.

In contrast to the abbreviated procedure being followed by the Coast Guard, the International Maritime Organization (IMO) has been developing similar carriage requirements as part of amendments to chapter III of The Convention on Safety of Life at Sea (SOLAS) for several years. While these amendments are expected to be finalized this year, they will still not go into effect until May 1986 for new ships or as late as May 1991 for existing vessels.

The IADC certainly does not propose that the Coast Guard either consider the proposed carriage requirements or delay implementation of the final rule for the lengthy period found necessary by the IMO. Nonetheless, we are disappointed that the Coast Guard has begun the regulatory process with the publication of two proposed rules. Given the nature of the subject area to be regulated, we had expected that other information gathering steps would have been undertaken first. The IADC believes that any carriage requirements should give due consideration to the experience and advancing technology of the offshore drilling industry. As a result of the use of the shortest possible administrative procedure in the Proposed Rules offered by the Coast Guard, several points should be amended prior to promulgating the final rules.

### GENERAL COMMENTS

The IADC recognizes that personnel aboard all vessels operating in or passing through the waters designated in the above Proposed Rules could be subjected to severe hypothermia conditions during an abandon ship evolution.

The IADC recognizes that exposure suits, used in conjunction with the primary lifesaving system of a unit, may provide a positive secondary line of defense against exposure and hypothermia. Further, the IADC recognizes that use of exposure suits may provide additional positive primary defense capabilities against drowning and hypothermia in the event of total immersion of the wearer.

However, the IADC perceives no line of reasoning which justifies a grant of exemption to vessels whose personnel or passengers are subject to the same potential threat to life. The Coast Guard has presented no adequate substantiation for its decision to single out MODUs and vessels supporting MODU's for carriage rules which are burdensome for other classes of vessels carrying primary lifesaving systems (covered lifeboats or capsules) identical to those currently required aboard MODU's.

The IADC wishes to caution the Coast Guard regarding the use of generally negative and unsubstantiated discrimination when comparing MODU's to "more conventional vessels" in the Proposed Rules. The IADC believes that, while all vessels are exposed equally, the Coast Guard recognizes that a large percentage of MODU activities and operations bear little or no relation to normal activities and operations on more conventional sea-going vessels.

### PERFORMANCE GUIDELINES FOR EXPOSURE SUITS

The IADC believes that the design evolution of exposure suits, while appearing to be good in many respects, has not reached the level at which they should be expected to perform. Finding reliable means of protecting drilling industry employees from drowning and from the potentially fatal effects of hypothermia is not a concern suddenly born of backlash to tragedy. IADC members were testing early models of today's generation of exposure suits, called "Walrus Suits", on units drill-

ing in Alaskan waters back in the 1960's. What was lacking in the suits then is still lacking today and should be given proper consideration in the Proposed Rules.

Specifically, the IADC is greatly concerned that the Proposed Rules have failed to require that exposure suits correctly right and position an unconscious wearer. The Proposed Rules require only that the suit must have a stable floating position in which the wearer's head is maintained in a specified attitude. The technology to improve current designs almost certainly exists, but the motivation for exposure suit manufacturers to make the necessary improvements in their designs is lacking in, and perhaps even hindered by, the proposed regulations.

The IADC believes that the Coast Guard recognizes that personal flotation devices (PFD's) or life preservers, by themselves, are minimally effective in preserving body heat in the designated waters. Conversely, the Coast Guard has not seen fit to require that exposure suits, by themselves, should provide the capability of righting a face-down unconscious wearer. Yet, no satisfactory arrangement exists whereby PFD's or life preservers may be used in conjunction with exposure suits to provide both necessary capabilities. Thus, the promise of the exposure suit remains unfulfilled; conscious wearers of exposure suits are adequately protected from hypothermia, but unconscious, injured, and exhausted wearers are needlessly exposed to suffocation by drowning.

The IADC believes that at the time this additional feature is properly addressed (and it most certainly must be addressed at some point), thousands of suits purchased by vessel owners in response to or anticipation of carriage rules, will suddenly become obsolete. While many suits have already been purchased as a direct result of these Proposed Rules, the IADC urges the Coast Guard to carefully weigh its performance characteristics for exposure suits now, before publication of the Final Rule, in order to create the least burden on all vessel owners.

The IADC recommends that 46 CFR 160.071-11 be amended to provide that exposure suits be constructed so as to bring an unconscious face-down wearer into the stable floating positions described in sections 160.071-(a) (2) and (3).

The IADC further recommends that the Coast Guard require in the Final Rules that exposure suits, meeting the above suggested performance guidelines and equipped with whistle and light, be acceptable for carriage in lieu of PFDs or life preservers aboard all inspected and uninspected vessels not carrying passengers for hire, including MODUs operating in or passing through the designated waters.

#### NUMBER AND PLACEMENT OF EXPOSURE SUITS

The IADC believes that the number of exposure suits required for carriage on board MODUs should be equal to one hundred percent (100%) of the berthing capacity of the unit. Since berthing spaces on MODUs are seldom 100 percent occupied, even during full industrial operations, this carriage recommendation would be well in excess of one hundred percent of all persons on board.

The IADC urges the Coast Guard to reconsider their requirements regarding additional suits and their placement on board MODUs. MODU crew members, for the most part, have no fixed "watch station" or "work station" as do crew members on more traditional vessels. The numbers and location of such stations that do exist vary considerably by rig type (jack up, semisubmersible, drill ship) and even within rig type due to different design concepts employed by naval architects.

Such watch or work stations as do exist, exist primarily when the unit is engaged in its normal industrial function, i.e. drilling. Yet, statistics developed in the National Academy of Sciences report, *Safety and Offshore Oil*, indicate that in nearly every case, losses to mobile drilling units occur when a unit is in transit, being moved on or off location, and/or riding out a severe storm. At these times, the normal functions of the unit are not being carried out and the normal industrial work stations are basically unmanned. Even when a unit is in the drilling mode, drilling activities are suspended or modified when threatened by severe weather. Often, crew size is reduced to minimum necessary personnel. Thus, during the periods of greatest historical significance, the crews are not even in their usual work areas.

History further indicates that in those instances where MODU's have had to undergo an abandonment evolution, the chain of events leading up to the abandonment have not occurred in a sudden catastrophic moment, e.g. as might be exhibited in a ship collision. Adequate time has existed in these instances in which to prepare for the abandonment, don PFDs or exposure suits, and launch the lifeboats and rafts. Even in the case of the *Ocean Ranger*, drilling had been suspended for hours while attempts were made to correct her ballast problems.

On most MODUs, evacuation points to which crew members are assigned on the muster list are typically very close to the quarters. The quarters area provides a place of shelter nearest the primary means of safe disembarkation, the totally enclosed lifeboats. This is the area of the unit to which all personnel not directly involved in trying to save the unit would proceed in an emergency.

In general, even those persons who would remain at work stations in order to try to save the unit would be close enough to rely on the exposure suits stowed in the quarters area. As a point of fact, considering the limited mobility provided by exposure suits, employees working in these areas would be better advised from a safety standpoint to proceed first to the quarters area or point of evacuation before attempting to don their suit. The drill floor, motor, or control rooms on most MODU's are no more than a few seconds away from the quarters, berthing, or evacuation areas for those personnel not encumbered by the oversized feet typical of most current exposure suits.

It should be further noted that storage of the suits may present problems related to the safety of the suit or with respect to the integrity of its construction or materials. Manufacturers' representatives have indicated that suits should not be stacked more than four high nor should they be subjected to undue compression. They have recommended that suits should not be exposed to temperatures in excess of 120°-150° F, which is certainly a possibility where suits are stored within closed containers in close proximity to radiant sources of heat or in areas where the air is not conditioned. And they have further recommended that the suits may be damaged if left in contact with or unduly exposed to petroleum distillates. These additional problems can, for the most part, be avoided by stowing the suits in the berthing or quarters area.

For the above reasons, the IADC feels strongly that exposure suits should be required for 100 percent of the berthing capacity of the unit, and that any requirement for additional suits in the work or watch areas of MODU's would be pointless, ill-advised, and economically burdensome.

#### INTERNATIONAL ACCEPTANCE

The IADC is pleased to note that the proposed rules provided a formula for United States acceptance of exposure suits approved by the flag state of a foreign flag MODU operating on the U.S. Outer Continental Shelf. We urge the Coast Guard to use its good offices and those of the Department of State to urge other nations to adopt the same policy before changes to Chapter III of the Convention on the Safety of Life at Sea become effective for new vessels in May, 1986, and for existing vessels in May 1991.

#### SUMMARY

In summary, the IADC believes that the following points should be addressed and amended in the final rulemaking:

1. Apply exposure suit carriage requirements without discrimination to vessels and units having similar lifesaving systems and operating in, on, or traversing the waters specified in the Proposed Rules.

2. Require the number of exposure suits to be carried on board MODU's to be 100 percent of the berthing capacity of the unit.

3. Require exposure suits to be stowed within the quarters or berthing area on MODU's.

4. Require exposure suits to right an unconscious or limp person from a face-down to a face-up posture and to meet all other applicable specifications for qualification as Coast Guard approved Type I-Personal Flotation Devices.

5. Permit carriage of exposure suits in lieu of life preservers (or other types of Personal Flotation Devices not providing thermal protection) aboard MODU's and other Ocean-going and Coastwise Vessels not carrying passengers for hire in the designated waters.

6. Make meaningful effort through the Transportation Department and through the State Department to reach accord with other nations regarding acceptance of Coast Guard approved exposure suits aboard U.S. flag vessels and MODU's.

**STATEMENT OF VIRGIL D. STONE, CHAIRMAN, OFFSHORE COMMITTEE, INTERNATIONAL ASSOCIATION OF DRILLING CONTRACTORS, AND PRESIDENT, KEYDRIL CO.**

Mr. STONE. Mr. Chairman, as you announced, I am Virgil Stone, the president of Keydril Co. and also today, representing the International Association of Drilling Contractors of which I am the chairman of the Offshore Committee.

And I've invited to come with me a colleague that I would like to introduce, Mr. Bert Crawford on my right. Mr. Crawford is the chairman of the Human Resources Committee of the International Association of Drilling Contractors. He also is the corporate director of human resources for his company, Sonat Offshore Drilling Co.

Mr. HUGHES. Delighted to have you with us today.

Mr. CRAWFORD. Thank you.

Mr. STONE. I am certainly pleased to have this opportunity to testify before this subcommittee, sir, and I understand, from the letter that we received earlier, that this subcommittee is interested in the effectiveness and efficiency of the U.S. Coast Guard.

I can tell you that their work with mobile offshore drilling units is, indeed, effective. They draw lines to be sure, specifying what they think should be done. And they stick with these—these rules, these guidelines very rigorously.

Sometimes, as a matter of fact, I think they go farther than necessary but, when they do make mistakes that we view as mistakes, we notice that they always err on the side of safety, and that's not bad.

As far as efficiency is concerned, I have never regarded the Coast Guard as a great example of efficiency but, in my 30 years of experience in offshore drilling, I have not ever observed any instances of flagrant violations of what I would regard as efficiency standards or reasonable conduct. I've seen no great waste of manpower and no significant waste of money or other resources.

The subcommittee also has inquired in its letter as to the adequacy as we see it of Coast Guard regulations and applicable statutes.

Generally speaking, I frankly do not welcome extensive further involvement of the Coast Guard in our business but, on the other hand, with passing time, we do see the need for new rule. And, as we understand it, the Coast Guard is formulating some new rules now, and based on what we know about those, we believe that they will lead to safer conditions.

And, by the way, we would hope that, among other things, there will be rules that will result in merchant vessels keeping watchmen on their bridges at all times, because we find sometimes that vessels pass dangerously close to our drilling rigs under situations where we suspect that there's no one on the bridge, and we hope that that improves. We certainly are in favor of good laws and good regulations and we do want to see them be good ones.

Enforcement of regulations by the Coast Guard has been announced by this subcommittee as a point in question. First of all, is this enforcement competent?

Well, generally speaking, the answer is "Yes." Is it diligent? Well, I would say mediocre to fair. Is it intelligent? Not always.

There are times when we find that we need to appeal certain decisions made by inspectors, for example, and we do not always concur in the final analysis with the individual ruling. But, again, for the most part, those errors that we see made are well intentioned and they almost always err on the safe side. And we don't quarrel with that.

In the subcommittee's letter to the IADC, the question was raised as to the adequacy of Coast Guard training and supervision of its inspectors. My reply to that is that it could be better. It certainly is not perfect, but we see it improving.

On balance, I have found them to be prepared to do their job, at least on mobile offshore drilling units.

You have asked, sirs, if the Coast Guard has enough resources—that is manpower, facilities, et cetera. From what I have seen, the answer is "yes."

With regard to the subcommittee's request for our views on lessons learned from the *Ocean Ranger*, I can assure you that we, in the industry, have viewed this accident with considerable alarm. We've been stunned and shocked by this event and we're determined to do everything possible to avoid a recurrence.

All of my conversations and reports received by the IADC suggest strongly that every owner of semisubmersible drilling rigs operating around the world have made a point since this accident to reexamine practically everything that's going on in the rigs to do what they can do to prevent recurrence of that accident.

Electrical systems, ballast systems, hydraulic controls, the adequacy of training of the personnel and a wide variety of other points which were brought out by the National Transportation Safety Board in its report and other reports that have sifted out from that event suggest to us that, yes, there is need for improvement and, yes, we must work on it harder.

It also has brought out the fact that there is need for new technology—technology that is yet to be conceived and perfected and developed involving, for example, life boats.

Also, technology involving the means of survival of human beings in cold water. Also, a need for higher skill levels on the part of some of our personnel. These things are certainly receiving considerable attention by the industry and, incidentally, we see the Coast Guard is doing really all that we think it can do to help us—all that it should do to help us in this endeavor, but we certainly want that help continued.

Regarding the Maritime Safety Act of 1983, a bill sponsored by Congressman Jones of North Carolina, we are still studying this and are not yet prepared to give a point-by-point response to each and every part of it.

However, I would say in general that we have, in the industry, worked with Coast Guard in a way that has been highly productive where there is professional coordination, professional exchange of ideas which has brought about overall a good safety record in our business and we see this continuing to help us improve.

While we regard the Coast Guard as a policing agency—and it is, and they can be tough—nevertheless, we do not view that as being

their principal role. We would like for them to continue to help us to analyze new technology as we develop it and help us confirm it, sometimes test it; sometimes inject new ideas into our thought processes. It's that sort of thing that we would really like to see our government concentrate on and we don't really get too excited favorably toward penalties, although we do not quarrel with the need for penalties to back up the Coast Guard's authority.

We would like to give a point-by-point response to that legislation, sir, and we will do so in the very near future.

In general, Mr. Chairman, that is about what I had to say, and I want to thank you very much and this subcommittee for the opportunity to participate in this hearing.

Mr. HUGHES. Well, thank you, Mr. Stone.

Mr. Bissell, we have your statement also, which is without objection made a part of the record.

**STATEMENT OF JOHN W. BISSELL, PRESIDENT AND CHIEF  
EXECUTIVE OFFICER, SEAL FLEET, INC.**

Mr. BISSELL. My statement is very short, so I'll read it in its entirety.

I'm John Bissell, chairman of the Offshore Marine Service Association, a director of the National Ocean Industries Association and I'm president and chief executive officer of Seal Fleet, Inc. of Galveston, Tex.

Today, I'm accompanied by Capt. William Mayberry, the executive director of the Offshore Marine Service Association and Phil Clark, vice-president of the National Ocean Industries Association who, with your approval, will assist me in answering any technical questions the committee might have.

First of all, I would like to take this opportunity to thank the Congress—and particularly this committee—for the enactment of Public Law 96-378, Small Vessel Inspection and Manning Law. I am pleased to report that all offshore supply vessels are now inspected by the Coast Guard and the great shortages of personnel are being relieved by the terms of the bill.

With the Coast Guard's publication of a proposed subchapter L, Construction of Supply Vessels, and the soon-to-be-published subchapter B, covering licensing, the full intent of the public law will be accomplished.

The Offshore Marine Service Association represents the owners and operators of nearly 150 companies providing transportation of personnel, services, and supplies to the offshore oil industry. Our industry operates over 4,000 American flag vessels and we've provided jobs for over 30,000 seamen.

Unfortunately, those figures represent much better times. With the dire economic conditions affecting the industry today, nearly 2,000 vessels are tied to the dock with the attendant loss of over 15,000 jobs for our skilled and trained seamen. Even the most optimistic predictions indicate no upturn in the near future and it is likely that the markets for those vessels may further decline.

Regarding the purposes of these hearings, I can say, without hesitation, that the American offshore supply vessel industry pos-

sesses one of the best safety records when compared to other maritime trades.

I am further inclined to say that the offshore transportation industry may not be able to survive the imposition of user fees, increased fines, if they are punitive in nature, or additional legislation designed to impose more stringent standards.

However, should your hearings find significant breaches of marine safety in some areas of maritime transportation, improvements within the industry itself and within the scope of present regulation could be accommodated.

This subcommittee will be considering H.R. 3486 eventually, and I'd like to make several points with regard to that bill.

Section 2, subsection (c) allows the Secretary to remit, mitigate, or compromise penalties for violations of subsections (A) and (B). No similar language is found for the various penalties in subsection (D). We'd urge that subsection (C) be amended to read "... for violation of subsections (A), (B), and (D)."

Section 2, subsection (D)(3) A penalty of \$5,000 per day approaches a confiscatory level and becomes extremely threatening to small offshore service vessels operating in foreign waters where circumstances beyond anyone's control frequently preclude timely inspection for certification.

We feel that \$500 per day would constitute a sufficiently worrisome penalty for small vessels. The penalty we propose is two-tiered: \$500 per day for vessels of 1,600 gross registered tons and below and \$1,000 a day for all others.

You would then have a significant dollar increase in liability over the current levels because of the change from "each offense" to "each day." The other penalty sections should be amended similarly.

There are times and certain locations overseas when problems with transportation and local facilities prevent even a carefully scheduled and coordinated inspection. When a vessel owner has done everything he can in a timely manner and through no fault of his the inspection is not carried out, equity calls for a positive Coast Guard action to assure the vessel is operating within the law.

The International Maritime Organization's Safety of Life at Sea Convention, 1974, has just such a provision in chapter 1, regulation 14. We suggest adding the following similar provision,

If a barge or vessel at the time at which its certificate expires, cannot, for good cause, be inspected as required by this section, such certificate may be extended for up to five months by the Coast Guard.

For barges, this could be added as a new subsection (F) to 46 U.S.C. 395 and, for vessels, as a new subsection (D) to 46 U.S.C. 390, subsection (C).

Thank you very much for the opportunity to present the views of the associations that I represent and we will attempt to answer any questions the committee may have.

Mr. HUGHES. Thank you, Mr. Bissell.

Mr. Stone, with the closure of overseas Coast Guard marine inspection offices, what has been the impact on the industry's ability in a timely fashion to secure the inspection and certifications necessary?



Mr. STONE. I'm sorry, sir. Would you repeat your question?

Mr. HUGHES. Yes. I wonder what impact the closure of overseas Coast Guard marine inspection offices has had on your ability to secure timely inspections and certifications.

Mr. STONE. I don't think we've had enough time and experience to fully assess that. Generally speaking, we have not had any great difficulty in getting our inspections performed timely. But, as I say, we really haven't been doing this long enough to fully assess it.

Mr. HUGHES. OK, what kind of training in emergency procedures is required of the crew of offshore oil rigs?

Mr. STONE. It depends, of course, on the level of responsibility. The personnel who are actually playing the leading roles typically are required to have many years of experience in their occupation. They learn, by training, first of all, on the rig. They learn by training in classroom inspections in our in-house corporate training departments, typically.

Mr. HUGHES. But they do receive formal training?

Mr. STONE. Very definitely.

Mr. HUGHES. Do you also have rig evacuation exercises periodically?

Mr. STONE. Yes, sir, Mr. Chairman. We do not fully evacuate all personnel from a rig because we would regard that as being unnecessary and perhaps even dangerous in many cases to do it routinely.

However, we do have evacuation exercises whereby we involve all of our people up to a certain extent. In other words, they have muster requirements, alarm has been sounded, they go to their emergency stations and that sort of thing; then, we go on beyond that and require, to a degree, various people at various times to actually get in the lifeboats and go down into the water.

Mr. HUGHES. How often is that exercise conducted?

Mr. JONES. It varies from company to company. I would say, generally speaking, our practices exceed those of the regulatory body requirements that we do experience in varying degrees from different governments around the world.

For example, once a month or, in some cases, some companies every 2 weeks. It varies somewhat.

Mr. HUGHES. Do you support the Coast Guard's proposed new regulations requiring survival suits?

Mr. JONES. We think that the use of survival suits is a very good idea, sir. We would like to see the technology improve somewhat.

We think that the current suits that are available to us are inadequate in certain respects and we are working as an industry on improving them. But we do favor them generally.

Mr. HUGHES. One of the criticisms directed by the National Transportation Safety Board was there seemed to be a lack of training for ballast room operators—at least in some of the investigations conducted by the Coast Guard. Has the industry developed a course of training for these operators?

Mr. JONES. Yes, sir, the industry has done a number of things in this regard and I would like to call on Mr. Crawford, my colleague here, to comment on that.

Mr. CRAWFORD. Thank you.

Several drilling contractors are using formal schools within the area; also, many have gotten stability and buoyancy simulators, ballast control simulators that are actual replicas to fit into the particular rig that they are talking about.

This kind of training at a formal level is only of value to a certain degree and, ultimately, it has to be fitted to a particular rig to be viable. And, to this end, some drilling contractors have indeed gone ahead and gotten stability simulators.

In my particular company, we have come up with an in-house program of requirements for all of our stability and buoyancy training, and we have an in-house certification and we feel the urgency is now to get this training as opposed to awaiting for regulatory requirements.

Mr. HUGHES. When was that program inaugurated?

Mr. CRAWFORD. It's after the *Ocean Ranger*. It's in an implementation phase now. It's—as far as getting the guidelines.

Mr. HUGHES. Most of these particular training programs came as an aftermath of the problem with *Ocean Ranger*.

Mr. STONE. Mr. Chairman, I would like to respond to that. I would say that some of them have but, for the most part, most of our training programs were in effect long before the *Ocean Ranger*.

Mr. HUGHES. I see. Well, it's important, first of all, that the training programs—that the answer to whether it's as a result of an accident, a realization that we have a blind spot or previous to that time.

Could I ask you, Mr. Bissell, What type of equipment do you require for an offshore supply vessel?

Mr. BISSELL. We require the standard safety equipment that the Coast Guard certification calls for. We have inflatable liferafts. We have lifejackets for each man, and a rescue boat for the vessel, all in compliance with Coast Guard regulations.

Mr. HUGHES. Do you have any equipment on board that would enable you to render assistance in rescuing people, from other vessels or rigs?

Mr. BISSELL. Not specifically.

Mr. HUGHES. Do you have any equipment on board that would enable people to survive in a harsh environment—cold weather, high waters?

Mr. BISSELL. At the present time, we have a vessel working off Alaska and both the charterer of that vessel and my company put a survival suit for each man on the vessel and, particularly in that harsh climate, we do use the survival suits.

Mr. HUGHES. I see.

The gentleman from New Jersey.

Mr. FORSYTHE. Thank you, Mr. Chairman. I thank both of the witnesses.

First, I would like to compliment the industry, Mr. Stone, on apparently picking up on some of the National Transportation Safety Board recommendations long before any regulations appeared on the scene. Your industry shows a responsiveness that is certainly very welcome to us.

There are two things that I would like to deal with. One of the recommendations, I believe, again from the National Transportation Safety Board, was that there be certified personnel on every

rig, most particularly, and certified lifeboats be required. What's your reaction to that?

Mr. STONE. Sir, we've had certified lifeboatmen on all of our rigs for quite some time. To be very honest with you, I can't recall whether it was because of a regulation in some part of the world or whether or not we just thought it was a good idea, but we would have thought, for the past few years, of operating without having certified lifeboatmen with all the marine requirements that you would expect. We think that's all right.

Mr. FORSYTHE. The NTSB did suggest going beyond just the lifeboat in terms of personnel. You operate the rig as a ship when it's in motion and, of course, some of the problems occur because you get in motion when you don't want to. I believe you are now required and do have a licensed master aboard who does take control of the rig at the time it is in motion.

Would it be helpful if you had further certified personnel on board?

Mr. STONE. Sir, the mobile offshore drilling rigs fall into several different categories, of course. Some of them are barges, in effect. Some of them are ships in effect. Some of them are something in between the two, and we see the requirements, the need varying from one to the other.

You obviously rarely need a ship's captain comparable to what you'd have on ocean liners on a dumb barge that was under tow somewhere, for example.

But, depending on the situation—the type of rig, yes, sir, we think that having a ship's captain and two or three other categories of licensed marine people as being a very good idea.

Mr. FORSYTHE. Well, how about semisubmersibles? That's the type of rig, I guess, that we're really thinking of.

Mr. STONE. Once again, there's two different types of semisubmersibles. Sorry if that's the way it is. The semisubmersible of one type is fully self-propelled. It is a seagoing vessel. For example, my company built one and it started to crawl on its maiden voyage across the Pacific Ocean, under its own power, with its own captain, its own rate, its own licensed engineer and a full crew just as if it were a regular oceangoing ship.

Now, that was in—some 6 years ago. Today, we are operating that same drilling rig in the Gulf of Mexico as it so happens and it's a world roving device. We are operating it in the Gulf of Mexico, not as a self-propelled unit at all, because we are operating in a given locality where we move it about as a barge. We do not use the propulsion system. We do not navigate. Any time we move it, we have a—have tow boats come out—maybe three of them, as a matter of fact, and move us—which has captains and all the marine crewmen on board those boats.

So, under those circumstances, we would not really see much purpose being served by having the crew on there we had when we crossed the Pacific.

Mr. FORSYTHE. All right.

Mr. Bissell, your statement—you say that equity calls for positive Coast Guard action to assure a vessel is operating within the law. When the vessel is outside the geographic area of the United

States, is it not the responsibility of the owner to comply with the law—not the Coast Guard on behalf of the owner?

Mr. BISSELL. Definitely, it's the owner's responsibility. The statement deals with occasions where the owner had planned an inspection and had a Coast Guard inspector scheduled to come and, due to extenuating circumstances in the geographical area, caused either by transportation problems or local facility problems or even local government problems, the inspector didn't make the scheduled inspection. Then, we say that the vessel shouldn't be shut down.

Mr. FORSYTHE. When not responsible for the failure——

Mr. BISSELL. Yes, sir, when the owner had done everything that he could to schedule it in a timely fashion. All we are saying is that we would like a grace period to set it up again and arrange for the inspection, but keep it under the law—keep it able to operate.

Mr. FORSYTHE. You expressed concern about the level of penalties which are assessed under H.R. 3486. This may be a question of drafting and I am a little confused myself as to the mitigation authority, but, if the Coast Guard is given the authority to mitigate or reduce a penalty, when it is appropriate in given circumstances, isn't the flexibility granted the Coast Guard sufficient protection against the actual imposition of penalties that are unfair or confiscatory?

You, I think, in your statement, referred to a section of the bill which is limited to sections (A) and (B) and omitted other sections. This is on page 3 of the bill in section 2(C).

Now, I think there is some question as to whether that 2(C) does apply to the following section (D), which is the penalty section having to do with failure—inspections in a timely manner and so forth.

Mr. BISSELL. Yes, sir, we would like to clarify where (D) comes under the same——

Mr. FORSYTHE. Section (D) came under the same provision.

Mr. BISSELL. Yes. Or had the same——

Mr. FORSYTHE. Same mitigation.

Mr. BISSELL. The Secretary should have the ability to remit or mitigate the penalties under that section.

It seems that, in our opinion, it was just left out, that's it.

Mr. FORSYTHE. Well, maybe we've just gotten an answer here. Subsection (D) is amending a provision in an existing law, which does already have mitigation provided in present law.

We'll be glad to look at that.

Mr. MAYBERRY. Mayberry with the Offshore Marine Service Association. The two sections that are in question are 497 and 498. They are the ones included in section (D) of the present statute. The present statute. They are both criminal. You must go to Federal court to collect that particular fine. It's being changed to a civil penalty and, although 2247, the recodification of 46, would seem to cover the fact that the Secretary can examine any of his penalties and remit or compromise them one way or the other.

We are not certain that 2247 is going to—I'm not that clever to read the language. It jumps from the various penalties in one section to the other and we just wanted to call this to the chairman's attention.

Mr. FORSYTHE. It might be helpful to clarify something here before the bill moves.

Mr. MAYBERRY. Yes, sir.

Mr. FORSYTHE. Thank you.

Mr. HUGHES. Just to follow up on that, I want to make sure I understand your testimony. If the flexibility is there for the Coast Guard to mitigate, that would address your concerns, because you did suggest a two-tier penalty—\$500, I think it was for under 1,600 gross tons and \$1,000 over 1,600 gross tons, as I recall.

Mr. MAYBERRY. If I may add, Mr. Chairman, I think Admiral Benkert touched on this this morning, 497 and 498 have been used traditionally by the Coast Guard as catchalls; 497 talks about specific penalties for violations of title 52; then, as an afterthought says, if we missed something in the first paragraph, we find it under this section.

And, as Admiral Benkert said, perhaps you could even get a fine for spitting into the wind, so it is an extraordinarily high fine when you are looking at the entire provisions of title 52. That's all of the laws that deal with shipping as far as Coast Guard administrators, and \$5,000 per day a violation.

If I just can add a little bit. The Chairman, Mr. Jones, has made it a point at almost each of these sessions—and last year—to identify that this particular drilling unit was out there at \$100,000 a day. I'd like to submit that our equipment is out there for about \$1,500 a day and, in the present market, that represents no profit whatsoever.

Mr. HUGHES. You're concerned even though it's a permissible—not a mandatory fine.

Mr. MAYBERRY. Yes.

Mr. HUGHES. You're still concerned at the level.

Mr. MAYBERRY. There's no—we've not had difficulty with the Coast Guard in recognizing people's ability to pay and to past performance of the company that has now been fined but, with the lack of clarification on mitigation, we thought we'd best call it to your attention. And it is a significant eyecatcher when you—a \$1,000 a day—this is for a major vessel—repeated every day that the violation exists is an attention getter; \$10,000 for knowingly and \$5,000 for all other vessels when their profit—when you compare—the small passenger vessels, the 390 vessels that have the same \$5,000 penalty. I can't think of any that are out there this morning that are making over \$50 a day, so I would be inclined to think that \$10,000 would be considered as punitive rather than a penalty for not complying with the law.

Mr. HUGHES. How about you, Mr. Stone? How do you feel about the penalty provisions in H.R. 3486?

Mr. STONE. Mr. Chairman, quite frankly, I doubt that these penalties will have much effect on mobile offshore drilling units one way or the other, because, if we know when inspection date for example is due, we are going to comply regardless of the penalties.

It occurs to me, though, that what I hear about the Coast Guard's plans, they are soon going to have this new computer system which will call to their attention when these inspection dates are due and similar things, and that's going to be very helpful to the industry and I would like to see it be a question of their

responsibility to notify us. I think it would be most helpful and in accordance with the spirit of cooperation that we had always experienced in the past, if that could be the case.

Mr. HUGHES. So, if I understand your testimony, you feel that the fines would not impact your segment of the industry. Do I read that to mean that you have no opposition to that section?

Mr. STONE. Naturally, Mr. Chairman, we don't welcome language which brings up penalties. We don't like to pay penalties.

Mr. HUGHES. Oh, we all understand that.

Mr. STONE. And we prefer not to have them.

Mr. HUGHES. But you don't feel that that's an unfair penalty scheme? You are talking in terms of the amount, the size of the rig and the scope of the operation.

Mr. STONE. From the standpoint of its causing us to be more safe in our operations out there, I don't see it having any effect.

Mr. HUGHES. Let me ask you a question about the requirements of H.R. 3486 which require the vessel owner to notify the Coast Guard 60 days before the vessel's certificate of inspection expires. Do you have any problems with that?

Mr. Stone?

Mr. STONE. Mr. Chairman, that doesn't bother me very much.

Mr. HUGHES. How about you, Mr. Bissell, any problems?

Mr. BISSELL. Well, if I might say, as Admiral Benkert has indicated for major ships, 60 days is no problem—certainly it is no problem to dutifully notify the Coast Guard 60 days in advance of the expiration of the certificate. But, in our industry, we might not have the slightest idea where the vessel will be in the next 60 days. Contracts are short term, and the vessel is mobile.

We would merely be able to tell the Coast Guard what they knew—that the certificate was expiring—but we couldn't set a definite location for the inspector to show up at until some time just before the certificate did, in fact expire.

Mr. HUGHES. Well, of course, that would be another problem. The requirement would be that there would be 60 days' notice before the inspection ran out and a notification by the Coast Guard that the inspection is coming due in 60 days.

The question of where the ship is is another issue. I presume that, when an inspection is to take place, at that point, the Coast Guard could find out from the owner just where the ship is located.

Does the gentleman from New Jersey have any further questions?

Mr. FORSYTHE. No.

Mr. STONE. Mr. Chairman.

Mr. HUGHES. Yes, Mr. Stone.

Mr. STONE. Could I just say one thing? By formal written response to your letter, we've submitted previously—and we would certainly appreciate that being used.

Mr. HUGHES. Without objection, that will be made a part of the record.

Mr. Stone and Mr. Bissell, we thank you.

Mr. HUGHES. We appreciate your indulgence. We apologize for the lateness of the hour.

Mr. STONE. All right.

Mr. HUGHES. Thank you again.

That concludes the hearing. The subcommittee stands adjourned.  
 [Whereupon, at 1:35 p.m., the hearing was adjourned.]  
 [The following was submitted for the record:]

STATEMENT OF L. G. OTTEMAN, PRESIDENT, SHELL OFFSHORE INC. (SOI)

I am Lloyd G. Otteman, President, Shell Offshore Inc. (SOI). In this capacity, I have the responsibility for offshore exploration and production activities in the Gulf of Mexico and along the Atlantic seaboard, together with some land operations in the coastal areas of Louisiana. My total experience with Shell includes 29 years of technical, operational and managerial assignments, primarily associated with offshore oil and gas development. I am pleased to have the opportunity to present SOI's viewpoints through written testimony to this distinguished panel.

The management of SOI places safety on a level equal to its other objectives, goals and responsibilities including that of drilling and producing. We recognize that the offshore marine environment injects an additional element of risk over an onshore site. We compensate with careful planning, extensive training and use of Best Available and Safest Technologies or BAST. We also recognize that where there is risk, there will be failure as well as success, regardless as to whether the issue is monetary or safety. I can assure you that just as a monetary loss is very undesirable, a lost time injury is very undesirable. A lost time injury is investigated by management and corrective action taken. The corrective action may be additional training or supervision or a change in procedure or a modification of a piece of equipment or it may be in the form of disciplinary action against the responsible person(s).

In any case, a diligent attempt is made to ensure that a similar incident does not occur.

As an introduction, I have reviewed our policy and explained some of our philosophy on accomplishing safety in the workplace. I have also attached as supporting information a copy of my paper, "A Discussion of Government/Industry Interface on Safety of Life Offshore" which I presented at the Scripps Institution of Oceanography on June 10, 1983 (Attachment No. 1). This information should assist in your understanding of why we take a strong stance on how government should approach regulation of industry. That is: We believe government regulation should be written in general performance type language based on industry voluntary standards.

The following comments will address specific areas of concern.

TRAINING

Training of personnel, whether it is for an offshore location or an onshore location, is a very important aspect of our business. The offshore merely adds a different environmental setting for which special training must be provided. In many respects, training is a personal thing—it must be tailored to the employee, the work schedule, the offshore location and the nature of the job. That is why our program is primarily an "on the job training" (OJT) program.

The new employee is placed under the guidance of experienced employees. This system permits the new employee to develop at a rate consistent with his ability and interest. The new employee's progress is monitored through the supervisor and trainer. He must demonstrate his capability to do the job before the training assignment is considered complete.

As the employee develops, he is assigned higher skill levels and in fact may become a "trainer" of other new employees.

Development of personnel in the OJT program is accelerated by supplemental classroom type training. This has wide application but the degree of need varies with the number of new employees required. We have found it desirable, for instance, to regularly supplement the SOI OJT program with some formalized training. Our formalized training programs vary from simple, do-it-yourself programmed learning (slide-tape or video programs) to schools at manufacturing plants and universities. I can't over emphasize, however, that each employee is an individual and OJT, where the employee is trained through hands-on exposure, is a most viable way of tailoring the task of training to the individual for the types of jobs and work locations found in the offshore petroleum industry. For more information, please see Attachment No. III to Attachment No. 2, Shell Offshore Inc. letter dated July 2, 1982, to Honorable Cardiss Collins, Chairperson, Manpower and Housing Subcommittee of the Committee on Government Operations, U.S. House of Representatives.

The referenced Attachment No. III is a comprehensive listing of training courses available to SOI employees. Some are required by regulation but, for the most part, they are programs developed by Shell to complement the basic OJT program.

Offsite emergency training is shown under the subtitle "Safety". These courses are a combination of classroom and "hands on" type training. A slide-tape or video presentation usually precedes the actual accomplishment of the training exercise. In the case of Covered Powered Life Boats (CPLB's), the trainees actually launch and operate the CPLB in the water. The other emergency training courses are conducted in a similar manner.

#### REGULATION AND BEST AVAILABLE AND SAFEST TECHNOLOGIES (BAST)

We appreciate the opportunity to comment on the Ocean Ranger catastrophe, but respectfully decline to comment since we have no first hand knowledge.

I would, however, offer for your consideration a few comments on the regulatory or legislative action which might be taken as a result of the incident.

A little earlier, I mentioned that SOI utilizes BAST in minimizing workplace injuries. These technologies are constantly changing and, to a large extent, depend on the specific job to be accomplished, the individual worksite, and the time of occurrence. Whenever regulations are written so as to require specific procedures or equipment rather than to accomplish a level of performance, there is the chance that the regulatory requirement may not ultimately reflect BAST. By emphasizing performance levels in regulation, the safety requirements can be sufficiently flexible to include growth in BAST.

For further emphasis, I will point out that equipment failures represent only a small percentage (5 to 15 percent) of the lost time injuries, while most of the existing Coast Guard regulations on Mobile Drilling Units deal in considerable detail with how equipment is to be designed and installed prior to use. This is an area where the Coast Guard can become more efficient, but to do so they will need the support and encouragement of your subcommittee.

Their detailed, staff intensive approach to regulation is compounded, rather than enhanced, by legislation such as that currently under consideration on use of survival suits. This proposed legislation is not sufficiently sensitive to all environments. It does not consider the different degrees of thermal protection needed in remote versus heavily populated areas; very cold versus cold areas and would result in use of inappropriate survival suits in predominately mild climates such as South Louisiana. If such legislation is pursued, it should exclude the Gulf of Mexico, and adjoining state waters. It should also foster a performance approach.

Performance language would provide the best solution for either regulation or legislation. To illustrate, "The person in charge shall provide thermal protective clothing for evacuation purposes that is appropriate and compatible with the evacuation and recovery program and the environment. Such procedures and equipment will be used during emergency abandonment drills." Performance language in regulations promotes development and early use of BAST as opposed to "how to" type language which fixes BAST at a point in time and stifles its further development. For additional information see attached Shell Oil Company response to Coast Guard notice of Proposed Rule Making (Attachment No. 8).

#### ENFORCEMENT

I am impressed with the Coast Guard's ability to make a contribution to safety on offshore platforms. The Coast Guard is composed of professional people. They understand marine activities and have a realistic understanding of worker safety in marine environments such as the OCS.

I have followed the Coast Guard's safety efforts in the Gulf of Mexico for many years, and have been personally involved in their increased activities since the passage of the 1978 OCS Lands Act amendments. They do not have a great amount of experience in actual drilling operations, but they have compensated for this by working with experts in the industry in a very diligent and professional engineering way. They have placed some of their officers on one year work assignments within the drilling industry to learn the business. They also have regular training programs for their young officers who are our inspectors. New Officers in Charge of Marine Inspections (OCMI's) also get a special training program to familiarize them with offshore drilling and producing operations.

As to their approach to regulation of workplace safety, we have seen a very professional approach at researching the work location to first identify the problem areas and, second, to determine what regulation and type regulation, if any, would improve the safety of the worker. When done properly, this is a time consuming process. In spite of this investigative work, however, the Coast Guard continues to be hampered in developing a fair evaluation of worker safety on the OCS because of the lack of worker population data. I believe the information can be collected from



each employer in a reasonable manner and believe the Coast Guard should proceed to implement a system of reporting lost time accident injury frequency data by employer to a central government collection point. I strongly support the approach the Coast Guard has taken on workplace safety and recommend to you that they are making a significant contribution to safety on the OCS.

This concludes my testimony.

[COMMITTEE NOTE.—The attachments to the statement were placed in committee record files.]

## MARINE SAFETY PROGRAM

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TUESDAY, AUGUST 2, 1983

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON COAST GUARD AND NAVIGATION,  
COMMITTEE ON MERCHANT MARINE AND FISHERIES,  
*Washington, D.C.*

The subcommittee met, pursuant to notice, at 10 a.m., in room 1334, Longworth House Office Building, Hon. Walter B. Jones (chairman of the subcommittee) presiding.

Present: Representatives Jones, Studds, Hughes, Biaggi, Thomas, Carper, Forsythe, Franklin, Borski, Foglietta, and Hutto.

Staff present: Bill Woodward, Sandy Holt, Andy Schwarz, Gina DeFerrari, Suzanne Bolton, Ed Welch, Cher Brooks, Duncan Smith, Brooks Bowen, Barbara Cavas, Rudy Cassani, Shelia Pugh, Bob Kurrus, John Cullather, and Ric Ratti.

Mr. JONES. The subcommittee will come to order, please.

The Subcommittee on Coast Guard and Navigation meets today to conduct the third of a series of hearings on the marine safety program of the U.S. Coast Guard.

These hearings were prompted by several recent maritime disasters and by a general sense on the part of the subcommittee that significant legislative and administrative changes in the Coast Guard's marine safety practices are required.

The primary legislative focus of the hearings is H.R. 3486, the proposed Maritime Safety Act of 1983, a bill which I introduced on June 30.

We had originally planned to invite Adm. James Gracey, the Commandant of the Coast Guard, as a witness today. Because of the long list of other witnesses which we have before us, however, we decided to postpone the appearance of the Commandant until after the August congressional recess.

It will be the subcommittee's intention, following that final hearing in September, to act promptly on H.R. 3486.

We have today a long and varied list of witnesses and I look forward to an interesting and informative day.

Does any member of the subcommittee wish to make a statement at this time?

Mr. Forsythe?

Mr. FORSYTHE. No.

Mr. JONES. Mr. Studds, do you care to make a statement at this time?

Mr. STUDDS. Mr. Chairman, if I may, just briefly.

There was an article, as I am sure the chairman is aware, in the Washington Post over the weekend, that seems to me to illustrate why these hearings are important.

According to the report, photographs taken of the *Marine Electric*, after the sinking, show: "Hull plating fractured and creased, hatch covers warped, ballast tanks ripped open and a 26-foot-wide hole hammered or torn in the starboard bow."

The photographs show one bulkhead where a waterproof door had been cut away in the bow section and another where a corroded interior cargo hatch was frozen open by rust.

The Post report also mentions the testimony last week before the Coast Guard Marine Board of Investigation of a naval architect hired by Marine Transport Lines. His testimony, like that of Marine Transport Lines before this subcommittee, was intended to suggest that the *Marine Electric* sank because its anchor came loose and somehow penetrated the vessel's hull.

The naval architect stuck to this theory despite admitting to the Marine Board that he did not know how much energy it would take to penetrate the hull of the *Marine Electric*.

He had not calculated hull strength, thickness of steel, or the configurations of anchor chain necessary to have caused the holes indicated in the photographs. He had not reviewed all the video tapes taken by the divers; and he admitted he had never heard of a ship being sunk by its anchor in the manner he suggested had occurred with the *Marine Electric*.

Obviously, I don't expect this subcommittee, the Congress, or anyone else to reach any conclusions based on a newspaper report, but I think this article should serve as a reminder of some of the fundamental issues raised by these hearings:

There are some very old, very dilapidated ships in the U.S. fleet; neither the Coast Guard nor the American Bureau of shipping, can guarantee the safety of these ships short of banning them altogether from the seas.

These ships will inevitably, from time to time, sink. People will be killed. Our shipowner liability laws are such that the shipowner will do all he can to avoid responsibility for any sinking and most of the time, most of that legal liability will be avoided.

Even to the extent dollars are ever able to compensate for this kind of loss, the victims and their relatives will not be adequately compensated.

The real responsibility for operating a safe cargo ship does not rest with the Coast Guard, the American Bureau of Shipping, or with the crew. It rests with the owners.

I don't think our laws at present adequately reflect that fact. I think they need to be changed, and I hope very much that this subcommittee will change them.

Mr. JONES. Thank you.

Mr. Biaggi.

Mr. BIAGGI. Thank you, Mr. Chairman.

During the course of these hearings, we have heard from the Coast Guard and the National Transportation Safety Board—the Federal agencies directly responsible for the merchant marine.

We have heard from a licensed officer who survived the *Marine Electric* tragedy and the owners of this vessel, who each have the responsibility of reporting unsafe conditions and assuring that the vessels are operated safely.

We have heard From the American Bureau of Shipping, which shares a responsibility to the seafaring public to provide a certain degree of assurance of maritime safety. We have also heard from various other parties who, likewise, have a responsibility and an interest in maritime safety, so we expect to hear from maritime labor, State pilots, fishery interests, and others who have a responsibility for maritime safety.

So far, the pattern of testimony seems to bear out the fact that, while many have an interest and a related responsibility for maritime safety, they seem to have not, for one reason or another, met their responsibilities.

Whether or not the taking of legislative action similar to what has been proposed in H.R. 3486 will resolve the apparent deficiencies is a question we will have to explore further.

In any event, Mr. Chairman, I feel that these combined oversight legislative hearings will lead to a better understanding of everyone's responsibility. This, in turn, should lead to renewed efforts by all who are responsible so that we can maintain our leadership in worldwide maritime safety.

Unless we do something and do it in a forceful and effective manner, all of these hearings in the end will be meaningless.

Mr. JONES. Thank you, Mr. Biaggi.

We will now proceed to recognize our first witnesses.

Mr. FORSYTHE. Mr. Chairman.

Mr. JONES. Mr. Forsythe.

Mr. FORSYTHE. Mr. Chairman, I would like to enter for the record a statement by the ranking minority member of the subcommittee, Mr. Young.

Mr. JONES. Without objection, Mr. Young's statement will be in the record at this point.

[Material referred to follows:]

STATEMENT BY HON. DON YOUNG, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ALASKA

Mr. Chairman, today we are holding this third in a series of hearings on the marine safety program of the Coast Guard and its impact on the maritime industry.

Over the past two hearings I have been stressing what I think is important in carrying out our oversight responsibilities in this area of marine safety. All of us without question agree that safety is important; but we must balance this consideration with the reality of the maritime industry. There are dangerous conditions and risks, both in the elements and in the economy, in this important industry. Laws or regulations alone are not the answer. We must consider the responsibilities of both the government and the industry in bringing about safe conditions and a strong merchant marine. We must look at the resources and costs involved.

Mr. Chairman, today we have representatives of the labor, shipping, communications, and fishing interests and of lost seamen's families, who will be able to give us a balanced picture of marine safety in this industry. I welcome them here today and look forward to hearing their testimony.

Mr. JONES. Our first panel consists of Mr. C. E. DeFries of National Marine Engineers' Beneficial Association; Mr. Frank Pecquex of Seafarers International Union; and Capt. Pat J. Neely of American Pilots Association.

You may proceed, Mr. DeFries.

**STATEMENT OF C. E. DeFRIES, SECRETARY-TREASURER,  
NATIONAL MARINE ENGINEERS' BENEFICIAL ASSOCIATION**

Mr. DeFRIES. Thank you, Mr. Chairman.

Good morning, Mr. Chairman, and members of the subcommittee. My name is Gene DeFries. I am the secretary-treasurer of the National Marine Engineers' Beneficial Association.

I am honored to testify today on a subject that must be, but too often is not, recognized as the heart of any policy concerning America's merchant marine: uncompromising concern for the life of all U.S. seamen and, consequently, the safety of each vessel they sail.

As an official of the National Marine Engineers' Beneficial Association for 24 years, my primary obligation has always been to the welfare of our officers. These men cannot select their ships. They are obligated by law to go wherever their contract says to.

And, while we stand ready and willing to die for our country, we should not have to die for a few tons of grain bound for Egypt; a pile of coal headed up the coast; the avarice of a handful of ship-owners; the inexperience of the Coast Guard officers; or the apathy of Congress that enables—even encourages—more than a few rotten, old ships to spoil the fleet.

Even one death that we can avoid is one death too many. Yet the shocking truth is that, since 1970, more than 500 seamen have died on U.S. Coast Guard-inspected ships.

With this appalling figure in mind, I reviewed the questions you wanted me to address, Mr. Chairman. You asked if the regulations are enforced with an acceptable degree of competence, diligence, and intelligence by the Coast Guard; whether inspectors are adequately trained and supervised; whether the Coast Guard has enough expertise, money, and personnel and whether it has the ability to learn from past tragedies to avoid future mistakes.

Mr. Chairman, the answers are simple: No, no, no, and no.

I can only say "yes" in favor of your subcommittee's dedication to solving the problem. However, the remedies proposed in your Maritime Safety Act, although steps in the right direction, are like calling for new equipment on kamikaze fighter planes.

Better tracking, bigger fines, procedural details like these are worthless if a ship is not seaworthy. Additionally, the provision of section 4 of H.R. 3486, defining new authority for the Coast Guard over State pilotage, seems ironic when the agency is having trouble with its existing duties.

Our priorities are warped if we put these superficial trappings above the fundamental safety of the vessels themselves. Until we scrap our senile ships, debating about survivor suits or lifeboat davits or swimming rescue teams is a sickening admission that we cannot strike at the heart of the problem when certainly we can.

The problem, of course, is old ships. This means dangerous ships, despite the euphemisms you have heard in the past 2 weeks. People have told you that they would rather sail an old ship in good shape than a new ship in bad shape. But, Mr. Chairman, I

have never seen an old ship in good shape. The fact is: too many are both old and bad.

The *Poet* and the *Marine Electric* are trying to tell us something: If a ship isn't retired when it gets too old, it will retire itself.

It still amazes me that thousands of hours and dollars have been poured into high-tech studies of why these ships went down. Anyone who had ever seen them could immediately deliver an autopsy in two words: old age. To talk of synchronous rolls or wasted hatchcovers is like saying a broken spoke kept a Model T from winning the Indy 500.

Although 40 percent of the U.S. fleet is at least 20 years old, 75 percent of the dozen worst U.S. marine tragedies in the past two decades struck these ships aged 20 or older.

Twenty is the rounded number when industry experts say a ship should be junked. This is no coincidence. Why, in America, aren't these rustbuckets put out of their misery? One major reason is that U.S. Coast Guard inspectors do not have the time, training, or presence of mind to spot a problem and then see it fixed. Waivers are tossed out like so much confetti. And Coast Guard officers with 12 weeks' experience behind a desk are dealing with officers of the merchant marine who have spent 20 years at sea.

My outrage comes as no surprise to you subcommittee members. The GAO, the NTSB, the Marine Safety Board, congressional committees on both sides of the Hill, and DOT itself have all questioned the performance of Coast Guard inspectors.

I have attached to my testimony the 1979 GAO study entitled "How Effective Is the Coast Guard at Carrying Out Its Commercial Vessel Safety Responsibilities?" This was the report that stated: "Many Coast Guard inspectors are not trained or qualified," period. That was 4 years ago.

Two weeks ago, Admiral Lusk told you that the quality of the CVS program has not improved. But, for a more recent analysis, I have also included the July six-part series from the Baltimore News American which documents unbelievable and frightening cases of Coast Guard ineptitude. In the fourth article, you will read the comments of a lieutenant who inspected the S.S. *Point Susan* in 1981. He said, "I wasn't qualified or prepared to do it; I was way over my head; I didn't know what I was supposed to be doing."

In a year, the rudder fell off the *Point Susan*. Shortly thereafter, another lieutenant listed 150 age-related problems on board. The ship should be condemned, he said. A Coast Guard captain, however, said his lieutenant had misinterpreted many problems. Today, the *Point Susan* is hauling cargo en route to Israel.

My frustration with the Coast Guard incompetence has not yet driven me to question its integrity. I believe—as many of you do—that the reason the Coast Guard cannot handle inspections is because it simply has too many other things to handle.

But the problem isn't just money or manpower. It's the military character of the Coast Guard that is killing the U.S.-flag merchant marine.

I would like to quote from another study I have included—the 1981 survey of Ruttenberg & Associates called "Perspectives on the Coast Guard Problems in the Regulation of Commercial Shipping."

It concludes:

While multimission flexibility and frequent rotation may be an optimal way to fulfill the Coast Guard's military readiness mission, it is a serious and even fatal distraction from the regulation of commercial industry.

Admiral Lusk is aware of the damage caused by his career progression shuffling. He explained that the tour of duty for inspection was being extended from 3 years to 4. Now the Coast Guard's own merchant marine safety manual says that it takes 3 years to become a qualified marine inspector. What this means is that for years the Coast Guard examinations were conducted by inspectors who were rotated to another assignment precisely as they became minimally qualified for the job they were leaving. Today, we can assume that about one-fourth of all inspectors are qualified by the Coast Guard's own standards. Should this clear incompetence be tolerated?

You may remember when ex-Commandant Adm. John Hayes told this subcommittee 2 years ago: "We would wonder whether professionalism could ever be achieved under current conditions and circumstances within the Coast Guard structure." Experience proves that it cannot, and the price has not been just dollars, but human lives as well.

My point is this: A good vessel inspector should not have to know how to interdict drugs or pilot a chopper or have the myriad other skills a Coast Guard officer should have, but he must have thorough knowledge and experience in every aspect of vessel safety, qualities most Coast Guard officers don't have. An inspector can't condemn a dangerous ship if he doesn't know what a dangerous ship is.

Just as the U.S. Army does not regulate the railroad industry or the U.S. Air Force does not regulate the aviation industry, the U.S. Coast Guard has no business regulating the commercial maritime industry.

This Congress can begin to crack down hard on deadly ships only after all basic inspection responsibilities rest with an agency of civilian career professionals, similar to the Bureau of Marine Inspection and Navigation that existed before World War II.

No doubt such a body could be organized under the Maritime Administration. This switch cannot happen overnight. But a policy that does not begin phasing the Coast Guard entirely out of the inspection business does not attack the real problem of vessel safety, and probably contributes to it instead.

Mr. Chairman, getting the military out of our commercial business would allow the Coast Guard to do a better job with those vital duties only it can perform. And it is only these duties that the military should do—not jobs that civilians can perform and perform better. This would save time, money, and men.

If the industry gets stuck with new costs, at least it will be money well spent.

That brings us full-circle to the question of economy. I know this subcommittee has been told that a tough drive to scrap old ships would cause economic hardships; it seems to me that if few ship-owners were not so hung up on grabbing last-minute short-run profits, they would recognize the long-term benefits of investing in a modern fleet of fuel-efficient vessels.

In all but the most shortsighted scenarios, the thrifty way to go is with ships that are new—not old. But how will all this happen? Who has the power to put merchant vessel safety back on track?

Only when the U.S. Government, through legislation or regulations or executive orders, demands that qualified ship inspectors understand both the spirit and the letter of the word "seaworthy" will our fleet be safe to sail.

In conclusion, any analysis of the plight of maritime safety is misleading if it does not identify old ships as the core of the problem. The only way to uproot this evil is to mandate an aggressive attack by a dedicated and seasoned staff of professional inspectors—a team that the Coast Guard could never field unless it ended its fundamental multimissioned military structure.

Insofar as H.R. 3486 demonstrates an awareness of a serious problem with the present vessel inspection system, we support its intentions. But we cannot regard it as a significant step toward ending a significant tragedy that can only result in the continued needless killing of U.S. citizens at sea.

More needs to be done, Mr. Chairman—much more.

Thank you, Mr. Chairman.

Mr. JONES. The Chair will recognize Mr. Frank Pecquex of Seafarers International Union.

#### STATEMENT OF FRANK PECQUEX, SEAFARERS INTERNATIONAL UNION OF NORTH AMERICA, AFL-CIO

Mr. PECQUEX. I thank you, Mr. Chairman. I apologize for Frank Drozak's inability to be here, but he is addressing a convention out of town and will not be back, you know, before the end of the day.

As you can well imagine, Mr. Chairman and members of the subcommittee, much like the Marine Engineers' Beneficial Association, we, too, are extremely interested in the safety of manpower at sea and also the safety of the vessels.

I would like to read, in part, from Mr. Drozak's testimony and also ask that that be submitted in its entirety for the record.

Mr. JONES. Without objection, so ordered.

Mr. PECQUEX. I thank you.

[Material referred to follows:]

#### STATEMENT OF FRANK DROZAK, PRESIDENT, SEAFARERS INTERNATIONAL UNION OF NORTH AMERICA, AFL-CIO

Mr. Chairman and members of the subcommittee, my name is Frank Drozak. I am president of the Seafarers International Union of North America, AFL-CIO, which represents thousands of seamen crewing U.S.-flag vessels engaged in the Nation's foreign and domestic waterborne commerce, including offshore supply vessels and barge and tugboat operations on the Great Lakes and on the 25,000 mile-long network of U.S. inland waterways as well as fishermen engaged in harvesting various species of fish in both domestic and international waters.

Mr. Chairman, we appreciate the opportunity to once again appear before this subcommittee to discuss an area of extreme importance to our members—that of marine safety.

Historically, the SIU has maintained a keen interest in the safety of its membership employed onboard U.S.-flag vessels. As a result of that concern, an internal line of communication was developed nearly 30 years ago to deal with health and safety conditions aboard SIU-contracted vessels. A ship's committee representing all shipboard departments was routinely formed aboard each vessel to provide a forum to discuss matters of importance to the ship's unlicensed crew. SIU members are encouraged to report any shipboard condition, which in their opinion, represents a po-



tential hazard. These problems are discussed during weekly unlicensed union meetings held aboard ships and are often handled directly at that time by the ship's chairman representing all SIU seamen aboard the vessel. Any shipboard problems, safety or otherwise, are normally reported to the union through the transmission of regular correspondence between the vessel and SIU headquarters or its port offices throughout the country. All hazardous or unhealthy operating conditions are duly noted and efforts are undertaken to immediately contact contracted operators to remove any unsafe condition. Over the years, this internal line of communication has resulted in the prompt correction of many unsatisfactory operating conditions.

However, in recent years, with the widespread aging of the U.S.-flag fleet, it has become necessary to deal with health and safety problems on a broader scale. As a result, the SIU established a Safety Committee in 1981 to encourage coordination of shipboard information involving the SIU's contracted fleet in the maritime and fishing industries.

We recognize, however, that the SIU is limited in its ability to correct or to serve as an instrument in correcting all shipboard problems and, therefore, welcome the Subcommittee's interest in the issue of marine safety. We hope that the Subcommittee's action will go a long way in correcting deficiencies of the type which have been brought into sharp focus by three recent major maritime disasters, the mysterious disappearance of the freighter, the SS *POET* and the catastrophic capsize of the mobile offshore unit the *Ocean Ranger* and the collier, the *Marine Electric*.

These tragedies forcibly reminded us of the obvious—treachery of the sea and the quirks of nature which make seafaring an extremely hazardous occupation. Crews on merchant vessels are exposed to extreme dangers that peril their lives and over which they have virtually no control on a daily basis. Inevitably, casualties do occur; lives are lost and ships go down at sea; but there are remedies being proposed which will minimize the loss of life, limb and property at sea. Any and all efforts which ensure the American seamen an added measure of protection and an even chance for survival during a maritime disaster are welcomed and applauded by this organization.

Specifically, the Seafarers International Union (SIU) endorses S. 1441, legislation recently introduced by Senator Paul Trible which requires the carriage of exposure suits on all U.S.-flag commercial vessels in trade or commerce. We believe that with certain modifications, passage of S. 1441 will enhance a seaman's chance for survival by substantially reducing the risk factor of death due to hypothermia, the excessive loss of body heat due to immersion in cold water or exposure to cold temperatures, a condition which will occur when a seafarer is forced to enter cold waters after abandoning ship. As you know, hypothermia was the primary contributing factor in the deaths of twenty-two of the fatalities recovered after the *Ocean Ranger* disaster and 20 of the 24 crewmen recovered from the waters following the capsizing of the *Marine Electric*. Forty-two human beings may have survived the capsizing of both the *Ocean Ranger* and *Marine Electric* had both vessels been equipped with easily accessed waterproof and insulated survival suits. In our view, this legislation is superior to a proposed regulation issued by the Coast Guard dealing with exposure suits. However, we commend the Coast Guard for their efforts in this area of concern.

The Marine Safety Act, H.R. 3486, introduced by Representative Walter Jones, chairman of the House Merchant Marine and Fisheries Committee, will also, in our view, enhance merchant marine safety. We certainly endorse its provisions and consider the measure a step in the right direction toward the prevention of future maritime tragedies. However, based on the findings of the National Transportation Safety Board and the recommendations of the SIU during hearings held by the full Committee on the mysterious disappearance of the S.S. *Poet*, it is our view that the measure fails to correct existing deficiencies in several areas of marine safety. For example, the National Transportation Safety Board in its investigation of probable cause of the loss of the S.S. *Poet* stated:

"The delay until November 3 by the *Poet's* owner in notifying the Coast Guard that the *Poet* was unreported since October 24 may have contributed to the loss of life. The Coast Guard's failure to make adequate preparations once notified on the *Poet's* disappearance on November 3 and its failure to begin an active search until November 8 decreased the probability of finding survivors."

H.R. 3486 does respond to the need for a vessel owner to report to the Coast Guard within 48 hours any suspect circumstances indicating that a vessel may be lost and imperiled. However, the measure does not address the fact that, as in the *Poet's* case, the Coast Guard permitted five days to elapse before initiating a search and rescue (SAR) mission. Instead of immediately investigating the situation and commencing a SAR operation, the Coast Guard waited five days before it took

action. As noted in the NTSB report on the disappearance of the SS *Poet*, inactivity by the Coast Guard may have "decreased the probability of finding survivors." While it appears that the disappearance of the *Poet* may remain a mystery forever, we recommend that this Subcommittee amend H.R. 3486 to require the Coast Guard to reevaluate and streamline its SAR procedures to ensure prompt action by that agency in cases where there is any doubt concerning the well-being of a vessel at sea.

In addition, although the safety measure requires that an owner/operator notify the Coast Guard at least 60 days prior to the expiration of a certificate of inspection so that an inspection arrangement can be made, unfortunately, it does not address very serious problems in vessel inspection procedures, and the qualifications and training of Coast Guard inspectors.

We believe that U.S. Coast Guard inspectors are not adequately and properly trained to ascertain the seaworthiness of a vessel. The seaworthiness of a vessel is defined as one which is properly constructed, prepared, manned, equipped, outfitted and maintained for use in a service for which it was intended. Anyone inspecting and passing on the seaworthiness of a merchant vessel should be experienced and trained in areas of naval architecture, shipfitting, machinery, welding, pipefitting, construction and design, and most importantly, experience in sailing and operating a merchant vessel. Coast Guard inspectors usually do not have specific expertise in these areas. The maritime community relies heavily on the Coast Guard to provide minimum inspection and investigation services in the pursuit of safety. Unfortunately, many Coast Guard inspectors tend to be inexperienced, insufficiently trained in the tasks that are assigned to them and, because of the Coast Guard's duty rotation policy, are simply not up to the responsibilities of inspection that are expected of them. It is our belief that lack of trained inspectors, rotation of experienced personnel and staffing shortages make the effectiveness of the Coast Guard's inspection program highly questionable. Marine safety inspections must be based on expertise and continuity which in our view can only be developed through the retention and tenure of qualified personnel in a specific geographic and technical area.

Generally therefore, with modifications, both proposed safety measures, H.R. 3468 and S. 1441, respectively, will minimize the likelihood of marine disasters and the loss of life associated with those accidents which may occur given the uncertain and often hostile marine environment.

It is impossible to discuss merchant marine safety and all this term entails without focusing our attention on the United States Coast Guard, the agency mandated by law to protect life and property at sea.

It is not our intention to discredit the important traditional role played by the Coast Guard to the well-being of this Nation. However, I would be remiss in my duties to the SIU membership if I did not bring to this Subcommittee's attention several problem areas which are critical to the well-being and safety of all merchant seamen employed on U.S.-flag commercial vessels. It appears that the agency has become overburdened in recent years with additional responsibilities which are unaccompanied by financial resources necessary to effectively carry out its missions. Nevertheless, we believe that the agency must first and foremost direct its resources to its traditional and primary role of protecting life and property at sea. The health and safety of merchant seamen must not become the victim of unwise budget cutbacks, underfunding and understaffing.

Although the commercial vessel safety program is an integral component to Coast Guard responsibilities of providing some measure of protection to the users of marine transportation, the personnel which crew the vessels, the vessel owners/operators and the marine environment, it has been consistently underfunded and understaffed. Subsequently, the level of effort expended by the Coast Guard under this program to protect the personnel which crew U.S.-flag vessels has been totally inadequate. Problems which have been brought to the attention of the Coast Guard through the years still exist, seriously affecting the shipboard health and safety of merchant seamen.

The Coast Guard has recognized the existence of many problems—excessive overtime, shipboard health and safety conditions, unseaworthiness of vessels, enforcement of the three-watch statute and the like but has, unfortunately, not taken any substantive action. If action is taken it is due to the notification by the SIU or other groups to investigate certain occurrences. For example, recently, a large gas barge operated by Dixie Carriers developed gas leaks. It was only after repeated requests by the SIU to the Eighth Coast Guard District that the barge was inspected, and subsequently dry docked. It is currently undergoing major overhaul. In fact, the same company has permitted an individual to work 24 hours a day, 365 days a year.

This is a clear violation of safety standards, yet the Eighth Coast Guard District, to our knowledge, has done nothing to remedy this unsafe situation.

In carrying out its minimum manning philosophy, the Coast Guard has placed additional physical burdens upon seamen, thus creating unsafe and possible life-threatening conditions. For example, the Coast Guard, in setting manning standards has not considered the following factors which call into question existing manning practices:

The necessity of maintaining vessels, their equipment and machinery while the vessels are at sea;

The necessity of providing sufficient backup crew to adequately man the vessels in case of death, injury or illness of seamen while the vessels are at sea;

The unreasonable amounts of overtime which seamen must work on a daily basis, far in excess of an 8-hour day, when providing a vessel with a statutory complement of officers and crew.

The need for a vessel's crew to be able to effectively handle foreseeable emergency situations while the vessels are at sea; and

The mandates of other statutes which bear upon the complement of officers and crew including the requirement that deck personnel and engine room personnel be divided into three watches while at sea to provide for rotation of tours of duty so that all of the critical aspects of navigation be thoroughly covered on a 24-hour basis by seamen.

The Coast Guard has a system of vessel inspection which permits its local officers at various ports to apply safety standards without uniformity in practice. We have experienced vessels identical in weight, length, complexity, etc. with different Coast Guard ordered manning schedules. In addition, the Coast Guard applies inspection laws separately to tugs and to barges which operate as integrated tug/barge systems. Thus, less stringent safety requirements are applied to each separate vessel than would be applied were the vessels treated as a single vessel of overall length and weight.

These practices are disturbing to the SIU in light of the fact that so many lives may be at stake. As I stated earlier, it may be that the Coast Guard has found itself overburdened, underfunded and understaffed because of the other duties Congress has placed upon its shoulders. If this is true, we find this to be an unacceptable and unhealthy condition when the very lives of the men and women serving aboard U.S.-flag merchant vessels may be seriously affected. Mr. Chairman and members of the Subcommittee, we respectfully request that you provide the wherewithal in the form of adequate funding so that the Coast Guard may have the necessary resources to discharge its primary responsibility to protect life and property at sea.

At the same time, we suggest that a review be conducted to determine whether certain Coast Guard functions would be better performed by private sector organizations possessing the capability and resources to adequately perform identical services to ensure safe maintenance and operation of U.S.-flag vessels. Clearly, in light of the *S.S. Poet*, the *Marine Electric* and *Ocean Ranger* casualties, the present state of such functions as marine safety and inspection should be given a thorough review.

In closing, Mr. Chairman we stand ready to work directly with you and the United States Coast Guard to afford merchant seamen the highest measure of safety protection.

Thank you.

Mr. PECQUEX. Over the years, the Seafarers has, as I'm sure other unions have also, tried to develop its own internal line of communications to permit the handling of difficulties that were encountered aboard ships in terms of unsafe operating conditions.

We routinely, I guess for now, 30-odd years, have had ships' committees that have been elected and these committees are comprised of union members of all of the various shipboard departments and it has been their role over the years to discuss many different things—contractual disputes that might take place aboard a vessel but also in—more important of this hearing today, I've also had responsibility for discussions about safety aboard the vessel.

We have always felt that it was easier to resolve a difference early on in the process by having those who are presently aboard

the ship notify the various ships' officers as to any deficiencies that they found.

To back this up in terms of conditions that might because they were unable to be resolved at sea, we had a line of communications between the vessels, and our headquarters, and also our ports where we maintain union offices, which permitted union representatives to follow up more directly with the companies so that they could then communicate with their own captains and make the necessary arrangements for repairs.

This has worked extremely well but, over the last several years, noticing the significant aging of the U.S.-flag cargo fleet, we have found it necessary to establish a safety committee, and one was founded—formulated 2 years ago in 1981 and the duties of the safety committee were trying to be a bit more aggressive and to also coordinate activities on an activity-wide basis to separate the earlier policy which was more to resolve the differences on the ship itself.

For the last 18 months, the safety committee, we think, has functioned very well; they have started to pinpoint deficiencies on vessels; inadequate fire extinguishers on vessels that carry passengers were brought to the attention of the company by the safety committee members, who are union officials who go aboard the vessel and are asked to inspect it, much the same way that a Coast Guard official might be asked to, or is required to, do that sort of duty.

However, there are limitations in our self-policing role. We are unlicensed seaman. We are nonsupervisory personnel aboard a vessel. We can bring certain things to the attention of the—to the attention of the ship's officers or to the company representatives but we are bound, much like the other unions that are found aboard a vessel, by legal contracts requiring that we sell vessels if and when they are found to be in proper operating condition by various government agencies.

So we are in a bit of a dilemma there. We have certain things that we can do but we must then also abide by the law.

However, because of the recent maritime losses that this committee has looked at—the *Marine Electric*, the *Poet*, and the *Ocean Ranger*—we feel that the time is ripe for a broad-based congressional involvement in the process to try and correct any deficiencies that might now exist in present inspection procedures, in the training of Coast Guard officials and a whole host of other things.

One issue that we will raise is the manning of vessels. That should be looked at and, hopefully, dealt with in the near future.

In terms of legislative proposals that have been introduced in the recent days, we certainly support Senator Tribble's bill—S. 1441, which would require that exposure suits be placed aboard vessels that operate in more—you know, cold-water areas.

However, we would suggest that that bill be broadened because it eliminates certain classes of vessels which we think, because of their operating characteristics, should also be included in the purview of that law.

Your own bill, Mr. Chairman—H.R. 3486: We find that there's extremely good merit in that legislation. We are pleased with the 48-hour reporting requirement that would be mandated in which companies would have to notify the Coast Guard if they have been

unable to contact their vessels for a period of 48 hours but we feel that that, perhaps, may be insufficient unless it's coupled with Coast Guard review of its search and rescue procedures because, in the case of the *Poet*, I believe it was several days after notification by the company that the Coast Guard waited before it undertook a search-and-rescue operation. The 60 days' inspection notification is fine. That's all well and good but, if the inspection is being performed by inexperienced or untrained personnel, we think that is meaningless so we hope that whatever reporting requirements are required by the law would again be coupled by an improvement in inspection procedures.

We, too, feel that these two bills are just partial solutions to the overall problem and we would recommend that the committee continue its good work in this area.

I'd just like to point out one of the difficulties—and I think, as most members of this committee are aware: we have had some disagreements with the Coast Guard over the years; we've had some agreements.

Unfortunately, some of the disagreements were significant enough that the union decided to pursue a course of legal action and, several years ago, engaged in a lawsuit against the Coast Guard which is presently still being considered by the courts.

Basically, what we feel, I guess, are major problems are the general misdirection of the Coast Guard's resources and its responsibilities and the lack of uniform application of its own directives.

I'd like to just point out one of those basic areas of contention and that involves the concept of minimum manning aboard vessels. For years, we have been told that the Coast Guard's goal is only to secure personnel aboard the vessel to insure safe navigation of the vessels. Well, if you navigate an unsafe vessel, the likelihood is that something could happen as has happened in the case pointed out earlier.

We think that that minimum manning philosophy doesn't take into consideration certain necessary shipboard tests which we think are part and parcel of complete maritime safety:

The fact that vessels have to be maintained; the equipment aboard vessels must be kept in a state of repair and in perfect operating order; the excessive amounts of overtime that are now experienced by members of our union as well as members of other unions, which we don't think necessarily has reduced the cost of operation of the vessel but has certainly put a physical strain on those members of the crew who must work routinely 10 to 12 hours a day for anywhere from 3, 4, 5—up to 7 and 8 months at a time, depending upon how long they are employed aboard a piece of equipment. And also the need for backup crew to take over in the event a member of a crew is sick during a voyage or perhaps to take part in any kind of shipboard or at-sea emergencies involving the vessel itself or any other vessels at sea.

As I said earlier, all of these contribute to overall health and safety of both the crew and the vessel and should be treated with the utmost respect.

We have encountered difficulties whereby in certain areas of their jurisdiction the Coast Guard districts have operated somewhat independent from the Coast Guard headquarters in Washing-

ton, and this has necessitated the bringing to bear significant pressure in certain areas to insure that existing laws be enforced.

We most recently have had cause to bring to the Commandant's attention a tank barge operating in the gulf area that was in need of repairs to maintain safe operation of the vessel. We are happy to report that after about a 2-month period of time and between our own pressure and other pressures being brought to bear, that that piece of equipment is now in a repair yard.

At the same time, certain conditions have not been addressed: Excessive overtime being worked by members of certain pieces of equipment in direct violation of the law, we think, have not been addressed.

We've had individuals who have been employed for 365 days a year aboard contracted equipment. They've worked in excess of 12 hours a day as is required—as is stated by the law—and have, on occasion, during vital operations such as pumping volatile cargoes off tank barges—have been found to be asleep at the switch, so to speak.

We feel that this is a practice that, whether it be done on a nationwide level—and we don't think it is—but perhaps on a district-level level, they should be corrected.

In closing, we, too, agree that perhaps one of the problems that the Coast Guard has faced in recent years is the fact that they have had inadequate funding to perform the many tasks that have been given to them by various congressional actions.

However, we feel that if that is the case, we would request the subcommittee to review, in its authorization process, all of the Coast Guard's duty and insure that there is proper and adequate funding, so that there is no—nothing is taken away from what we feel is its primary function, and that is the safety of life at sea.

We would, in closing, also express our interest in working with the subcommittee and the Coast Guard itself in much the same fashion as we have worked in recent months in the conclusion of the recodification of title 46. We feel that there could be merits in putting some group together to try and resolve these differences so that we can guarantee that those who do go down to the sea in ships are given a fair opportunity of returning safe and sound to their home ports.

Mr. Chairman, I thank you for the opportunity to express our thoughts, and I will be available for any questions you might have.

Mr. JONES. Thank you.

Does any member of the committee have any objections to pictures being taken during this hearing?

[No response.]

Mr. JONES. If not, then the photographer may proceed.

I notice six or seven people standing near the doorway. If you'd like to sit in the empty chairs at this level, we'll be happy to have you.

The Chair will recognize Mr. Pat Neely at this time and I understand, Mr. Neely, that you might have some slight objection to this bill? You may proceed.

## STATEMENT OF CAPT. PAT J. NEELY, PRESIDENT, AMERICAN PILOTS' ASSOCIATION

Captain NEELY. Thank you, Mr. Chairman.

Members of the subcommittee, my name is Pat Neely, president of the American Pilots' Association. I represent approximately 1,100 State-licensed pilots in the 22 continental States bordering on the Atlantic, gulf, and Pacific coasts, in addition to Alaska, Hawaii, and districts I and II of the Great Lakes.

I appreciate the invitation to appear before you today. Our written testimony has been submitted. Hopefully, it will be entered into the record.

Mr. JONES. Without objection, the gentleman's statement will be entered into the record at this point.

Captain NEELY. Thank you, Mr. Chairman.

[Material referred to follows:]

### STATEMENT OF CAPT. PAT J. NEELY, PRESIDENT, AMERICAN PILOTS' ASSOCIATION

Mr. Chairman and members of the subcommittee, I am Capt. Pat J. Neely, president of the American Pilots' Association [APA]. I appreciate the opportunity to appear today to present the views of the APA on H.R. 3486, the Maritime Safety Act of 1983. Of particular concern to the APA is section 4 of the bill, which would effect a fundamental change in the 200-year old relationship of the roles of the Federal and State governments in the regulation of pilotage. In our opinion, this proposed change is ill-conceived and unnecessary. It would create an unfair burden on State pilots and would in no way further the announced goal of the bill.

### INTRODUCTION

The APA is a national trade association representing 60 state pilots associations located in 22 continental states bordering on the Atlantic, Gulf, and Pacific coasts in addition to Alaska, Hawaii, and Districts Numbers 1 and 2 of the Great Lakes. There are approximately 1,100 individual licensed pilot members in these associations who pilot all types of vessels in virtually all the navigable waters of the United States.

We understand that H.R. 3486 is the successor to H.R. 7038, which was introduced during the last Congress. Representative Walter Jones, the chairman of this Committee and the sponsor of both these bills, has indicated that the intent of the legislation is "to promote maritime safety on the high seas and navigable waters of the United States." We appreciate the Chairman's interest in this area. The APA has consistently supported efforts to promote and improve marine safety. Pilots, pilots association, and their representatives maintain a regular dialogue with agencies and organizations such as the U.S. Coast Guard, the Maritime Administration, the Army Corps of Engineers, the Federal Communications Commission, the American Association of Port Authorities, and the International Maritime Organization, for the purpose of identifying and correcting problems in the areas of vessel design, vessel upkeep and maintenance, aids to navigation, port and channel maintenance and improvements, radio communications, pilot licensing, and the performance of pilotage services. In addition, pilot representatives actively participate as members of, among others, the Rules of the Road Advisory Committee, Shipping Coordinating Committee, and Radio Technical Commission for Maritime Services.

The interest of pilots in marine safety issues should be obvious. Indeed, safety is the reason pilotage exists. The essential function of a pilot is to assist vessels in the safe transit of this country's ports and navigable waterways. The Supreme Court recognized over 130 years ago that a pilot is "changed with the safety of the vessel and cargo, and of the lives of those on board. . . ." *Cooley v. Board of Wardens for the Port of Philadelphia*, 12 How. (U.S.) 299 (1851). A pilot's responsibilities, however, extend beyond the vessel. Pilotage in the United States has often been described as a public service in which the pilot is responsible for protecting the marine environment and the physical and economic well-being of his port.

With this tradition of interest in and support for efforts to promote marine safety, the APA offers its comments on H.R. 3486.

## DISCUSSION

Of the first two sections of the bill (sections 2 and 3), section 2 is the only one that would have any direct effect on state pilots. The interest of pilots in this area is twofold. First, pilots would obviously prefer to work on vessels that are in good condition and whose propulsion and maneuvering systems are functioning properly. Second, some state pilots are in the somewhat unique position of being both owners and end-users of a vessel or vessels. A few of the pilots associations have pilot boats that are subject to Coast Guard inspection requirements. Since such pilots spend a considerable amount of time in their boats, maintaining the boats in good condition is in their own interest, and they would readily accept the possibility of stiffer penalties for failure to secure appropriate inspection certificates—however unnecessary such a deterrent may be in their particular situation.

As stated previously, section 4 of the bill is the provision in which the APA and state pilots are most interested since the section is addressed solely to state pilotage. It would amend 46 U.S.C. § 239 (Section 4450 of the Revised Statutes of the United States), which currently gives the United States Coast Guard authority to investigate marine casualties and accidents and "acts of marine incompetency or misconduct" committed by, among others, "any licensed officer *acting under authority of his license.*" 46 U.S.C. § 239(b), (d) (emphasis added). In addition, the Coast Guard is authorized in paragraph (g) of section 239 to proceed against the federal license of any officer whose conduct is the subject of an investigation under paragraphs (b) or (d). Section 4 of H.R. 3486 would remove from paragraph (d) the limiting phrase "acting under authority of his license." As a result, if section 4 were to become law, the Coast Guard would be authorized to proceed against the federal license of a marine officer even for conduct of such an officer while not acting under the authority of his federal license.

*1. Section 4 would be an infringement upon an area reserved to the States since 1789*

The impact of section 4 would be felt only on state pilots, the vast majority of whom hold both federal and state licenses. Whether a pilot performs his services under the authority of his state license or his federal license depends upon the vessel being piloted. The first Congress in 1789 granted to the states the power to regulate pilots, except as Congress might otherwise specifically provide. 46 U.S.C. § 211. Since that time, Congress has exempted from state regulation pilotage of vessels operating on the Great Lakes, 46 U.S.C. § 216-216(i), and United States-flag enrolled and licensed and enrolled vessels operating in the coastwise trades, 46 U.S.C. § 364. For other vessels, i.e., foreign-flag and United States-flag vessels under registry, pilotage is subject solely to state regulation—at least in theory.

The provisions of 46 U.S.C. § 239 limiting the jurisdiction of the Coast Guard to conduct of a licensed officer "acting under the authority of his [Federal] license" is a necessary consequence of the determination made by Congress almost 200 years ago that pilotage is a local matter that should be left to state control. That determination has been reaffirmed numerous times since 1789, both by congress and by the Courts. For example, 46 U.S.C. § 215, enacted in 1871, provides that nothing in title 52 of the Revised Statutes (which includes 46 U.S.C. § 239) shall be construed to annul or affect the power of states to regulate pilots. More recently, this Subcommittee and this Committee considered legislation to revise and simplify certain portions of title 46, including 46 U.S.C. § 215. Although the specific language noted above was deleted in the legislation, the concept was retained by the inclusion of the word "only" in the proposed successor to 46 U.S.C. § 211 that would provide that state pilots "shall be regulated *only* in conformity with the laws of the states." It was explained to the APA that the insertion of "only" was intended to make clear "the continued preeminence of the states' role in regulating pilots."

It was a similar recognition of the states' preeminent role in regulation pilotage in their ports and waterways that gave rise to the limitation on the Coast Guard's license suspension and revocation authority to conduct of an officer while acting pursuant to his federal license. To remove that limitation, as section 4 of H.R. 3486 would accomplish, would thus reverse 200 years of federal law and policy reserving to the states regulation of and control over state pilots.

In *Soriano v. United States*, 494 F.2d 681 (9th Cir. 1974), the United States Court of Appeals for the Ninth Circuit struck down an attempt by the Coast Guard to avoid the limitation on its jurisdiction imposed by 46 U.S.C. § 239. The Coast Guard had issued a regulation providing that an officer acts under the authority of his federal license in situations in which such a license "is required by law or regulation or is required in fact as a condition of employment." Under the pilotage statute of the State of Washington, a federal license is a prerequisite for a state license. A



number of other state statutes contain a similar requirement (the court's statement in *Soriano* that the Washington statute is unique in this regard is in error). Relying upon its "condition of employment" regulation, the Coast Guard attempted to proceed against the federal license held by a state pilot (*Soriano*) in connection with a collision involving a Liberian-flag vessel that he was piloting. The Court held that the Coast Guard's regulation attempting to expand its jurisdiction over state pilots was contrary to section 239. The court recognized the role of the limitation in section 239 in preserving the preeminence of the states in regulating state pilots:

"The Commandant's condition of employment regulation leads to precisely this result: it affects the power of the states to regulate pilots of foreign-flag, merchant vessels in state waters. . . .

"The Commandant's regulation, which purports to place state pilots under Coast Guard discipline, infringes upon an area specifically reserved by Congress for 185 years for regulation by the states and acknowledged by the Supreme Court for more than 120 years to be a subject of peculiarly local concern." See *Cooley v. Board of Wardens of Port of Philadelphia*, 53 U.S. (12 How.) 299, 13 L.Ed 996 (1851). The regulation is void. *Id.* at 684.

Permitting the Coast Guard to suspend or revoke a state pilots' federal license for conduct by such a pilot while acting under the authority of his state license has adverse impacts on state pilots and state pilotage in addition to the fact that in states such as Washington the loss of a federal license would result in the loss of a state license. The expansion of Coast Guard jurisdiction proposed in section 4 would constitute an interference with the states' regulation of their pilots and would unfairly impose upon state pilots a form of "double jeopardy" in which a state pilot would be subject to two separate disciplinary proceedings in connection with the same occurrence. That section 239 was intended to prevent precisely such a situation was made clear in *Dietze v. Siler*, 414 F. Supp. 1105 (E.D. La. 1976), in which another attempt by the Coast Guard to avoid the restrictions on its authority imposed in section 239 was struck down. The court in *Dietze* observed:

"Thus retained [in 46 U.S.C. § 239] is the traditional right of each state to enforce the standards of state pilotage as to acts under state licenses, free from the possibility that the same acts will be subject to federal investigation and the same pilots subject to sanction under Federal law". *Id.* at 1113 (emphasis added).

A similar statement acknowledging the states' interest in preserving their primary role in disciplining state pilots can be found in *Soriano*. The court in that case dismissed the argument that the only adverse impact of the "condition of employment" regulation was that the loss of a federal license would result in the loss of a state license and that a state could avoid such a situation by not making a Federal license a prerequisite for a State license. The court observed: "Nonetheless . . . the State . . . still might not wish to see its own pilots investigated and reprimanded for alleged misconduct while serving as compulsory pilots pursuant to state law." *Supra* at 684. Section 4 would therefore deny the states their "traditional right" to regulate state pilotage free from federal interference.

## 2. Section 4 is not justified by any safety need

It would be inaccurate and unfair to attribute the opposition of state pilots to changing the provisions of section 239 to a desire to escape discipline or responsibility for unsafe, incompetent, or negligent performance of pilotage services. No pilot would seriously argue, or in fact believes, that he should not be held accountable for his own actions and the legal consequences thereof. The essential fact that seems to be overlooked in the various anti-state pilotage legislative initiatives that have arisen recently is that state pilots are regulated and are subject to discipline for misconduct, incompetence, or negligence. The fundamental concept of the state pilotage system that has existed in this country since its very beginning is that the states regulate, control, and discipline their pilots. This system has worked well. The APA takes pride in the fact the United States is generally recognized as having the safest and most efficient system of pilotage in the world.

Since the intended purpose of H.R. 3846 is to promote marine safety, we must assume that the basis for including section 4 in H.R. 3846 is a belief that state regulation of state pilots is inadequate and has created unsafe conditions in marine transportation. Such a view is erroneous. No evidence exists that would support it. The assertions of which we are aware that have been made in favor of the change in law that section 4 would accomplish arise from misconceptions or misinformation concerning specific incidents that have been described as demonstrating that state regulation of state pilots is the equivalent of no regulation. For example, in the remarks by Chairman Jones introducing H.R. 3846, four marine casualties were cited as prompting the introduction of this bill: the disappearing of the S.S. *Poet*, the sink-

ing of the offshore drilling vessel *Ocean Ranger*, the sinking of the *Marine Electric*, and the ramming of the Sunshine Skyway Bridge in Tampa by the *Summit Venture*. The first three incidents occurred at sea with absolutely no involvement by a State pilot. The *Summit Venture* incident did involve a State pilot, but the facts in the case refute, rather than support, the view that State authorities do not adequately investigate or discipline state pilots acting under their state licenses.

We were informed during the last Congress that some of the members and staff of the Merchant Marine and Fisheries Committee understood that the State of Florida took no action against the state pilot on board the *Summit Venture*. Such an understanding, which apparently persists, is not accurate. Shortly after the incident at the Sunshine Skyway Bridge occurred, the state of Florida instituted a proceeding via an administrative complaint seeking to "suspend, revoke, or take other disciplinary action against [the pilot] and his license as a deputy harbor pilot." The pilot's state license was suspended pending the outcome of the proceeding. After an exhaustive investigation involving a full-scale adjudicatory hearing, with testimony by expert witnesses as well as those parties involved in or present during the incident, the state authorities concluded that the pilot was not negligent or incompetent and that the incident was caused by severe and abnormal weather conditions. The pilot's state license remained suspended throughout the tenmonth duration of the proceeding. The pilot involved would certainly be surprised to learn that there exists a perception that no disciplinary action was ever taken against him. He was found not to be at fault after a long and expensive proceeding yet nevertheless was deprived of his livelihood for ten months. Whether or not one agrees with the findings of the Florida Department of Professional Regulation, it must be accepted that the state conducted a thorough investigation and acted against the state pilot in a responsible and purposeful manner.

The misconception concerning the response of the Florida authorities to the Sunshine Skyway Bridge incident is not unique. We believe that the subcommittee would find similar factual errors or omissions in references to other incidents that might be offered in support of section 4. The proposed retreat in that provision of the bill from long-standing federal policy concerning the primary role of the states in regulating their pilots is not justified by any safety need. In that respect, it is noteworthy that the *Dietze* court described the limiting phrase, "acting while under the authority of his license," in section 239 as the product of the "historical attempt of Congress to preserve the integrity of state regulation even while promoting public safety." *Supra* at 1112. In our opinion, there is no valid reason for abandoning this "historical attempt." State regulation of pilots and marine safety are not mutually exclusive concepts.

### 3. Section 4 would not improve or promote marine safety

Not only is section 4 unnecessary, but it would have absolutely no positive effect on marine safety. The APA rejects the notion that a state pilot would somehow exercise a greater degree of care knowing that the federal government, in addition to the appropriate state authorities, will take action against him for incompetence or negligent performance of his duties. Even if state regulation were as inadequate as the most strident opponents of state pilots would contend, no state pilot believes that protection from Coast Guard regulation affords him carte blanche to engage in marine accidents. As a practical matter, the possibility of a license revocation or suspension has little if any deterrent effect and has marginal utility as a means of ensuring that pilots with demonstrated incompetence do not continue to operate. The dominant concern of pilots today is the increasing frequency of civil liability suits. Everytime a pilot performs his services he does so with the knowledge that incompetence or misconduct or inattention to his duties could result in a marine casualty that could involve loss of life and hundreds of millions of dollars in damages. The threat of financial ruin is totally adequate to encourage pilots to exercise the highest degree of care and skill in the performance of their duties. Similarly, there is simply not a problem with incompetent pilots continuing to serve while causing accident after accident.

### 4. Despite the States' "exclusive" role in regulating State pilots, the Coast Guard already exercises disciplinary control over State pilots

Ever since the *Soriano* and *Dietze* cases, the Coast Guard has periodically announced its intention to seek legislation similar to section 4. As this subcommittee is aware, however, following those cases, the Coast Guard began using section 12(d) of the Federal Boat Safety Act, 46 U.S.C. § 1461(d), which prohibits the negligent use of a vessel, to impose civil penalties against pilots. The use of this statute against

state pilots is particularly intense in those areas in where the Coast Guard is not satisfied with the disciplinary and regulatory activities of the appropriate state authorities. Notwithstanding the APA's position that the use of the Boat Safety Act against state pilots is an infringement of the states' exclusive role in regulating state pilotage, we would think that this device for "getting at" state pilots would be an acceptable alternative to the license authority proposed in section 4. The Coast Guard also assesses civil penalties against state pilots under the Port and Tanker Safety Act and for violations of the Rules of the Road. There is no justification for creating an additional layer of federal regulation and control over the conduct of state pilots when acting under the authority of their state license.

#### CONCLUSION

The APA thanks the Subcommittee for the opportunity to present the views of state pilots on H.R. 3486. For the reasons discussed, the APA urges the subcommittee to delete section 4 from the bill.

Captain NEELY. All of our member associations have received copies of H.R. 3486 and made aware of the provisions therein.

Although we have very few pilot vessels in operation that require Coast Guard inspection, the APA associations have been advised of the certificate of inspection requirements and the penalty provisions of 3486 for failure to comply.

We see no problems with pilot boats being able to comply with that provision of the bill. Likewise, pilot vessels utilized for carrying passengers for hire have been made aware of the revisions to the act as introduced in H.R. 3486.

The vessel reporting requirements nor the satellite communications are applicable to pilot boats. Therefore, my testimony today is focused on section 4 of 3486, which is directed to amend 46 U.S.C. 239(d).

To set the record straight, pilots are dedicated to the task of providing safe and reliable navigation into each port. I suggest that this country, so vitally dependent upon its imports and exports by sea—that we are fortunate indeed in having an efficient State pilotage service providing highly professional qualified pilots and safe, reliable pilot vessels to do the job.

With each port having unique characteristics in geographic and local conditions, each posing potential dangers for entry and transit, the pilot's role and contributions to safety and the prosperity of each area may not have been fully recognized.

I further suggest that pilots have met the challenges in nothing short of first-class professionalism with the advent of the larger ships, the hazardous cargoes carried and the need for the maritime industry to be world competitive for survival.

One can look at statistics and recognize quickly that commercial shipping has a decidedly better safety record than any other mode of transportation. This is not to infer that we should be complacent with these facts and relax, but we should try to improve them.

This association has been in existence 99 years. It has been and continues to promote safety, to work with industry—local, State, and Federal agencies, toward the perfect goal.

I suggest that section 4 of 3486 is an attack on the job performance of State pilot commissioners. We recognize that there must be a control over any mandatory service to insure that the users, and the persons rendering the service, carry out their duties and obligations. In broad outline, the responsibility of a board of commissioners is for the administration of the pilotage service at the port, or

ports, of the State insofar as the operations of the State pilots' licenses under the laws of the States are concerned.

It is to be assumed that, in entrusting the board with this responsibility, the legislature expects the board to recognize and accept a number of subordinate obligations—namely, that the pilotage be adequate, that it be constantly available and that it is manned by persons of unquestionable competence.

Further consideration of a board's responsibility leads into the realm of its duties. Enough pilots should be licensed as the board deems necessary to handle the traffic in a port efficiently and safely.

The boards must, before licensing an applicant, be sure that all of the requirements of the law are met and bonds posted if required. It shall hear and examine all complaints duly made against the pilot—for misbehavior, neglect of duty or breach of their rules or regulations. The board may suspend a pilot, revoke and amend a pilot's license, upon satisfactory proof of negligence, carelessness, willful dereliction of duty or disobedience of any lawful rule or regulation duly made and promulgated by them. They may alter or amend any existing regulation for pilots; may duly promulgate and enforce new rules and regulations not inconsistent with the laws of the State or of the United States, which shall be binding and effective upon all parties employing such pilots.

They may also establish and enforce all other needful rules and regulations for the protection of the citizens, the interest of the State, every segment of the marine industry, using the port and the pilots rendering this vital service.

Commissioners serve from the public sector and from allied maritime interests, mostly with little or no compensation except for expenses incurred with the position and notably the Governors of the respective States nominate persons interested in local port affairs and those who have local knowledge of the requirements of the local area. I suggest that this section 4 of 3486 is a direct blow saying in essence that the respective Governors of the various States have not procured the people to do the job or that those duly selected to serve have not done so.

I suggest that committee members here today would be objective about their own State commissions and know full well that that is not so.

The status of the U.S. merchant marine fleet has been discussed and reams of testimony attest to a large portion of the fleet being old, antiquated and in need of upgrading.

Well, let me add another sad commentary: The waterways of this Nation are equally antiquated, long overdue for improvements to handle modern commercial vessels; I consider it embarrassing to admit to other international pilot groups the inability of the U.S. major ports to accommodate vessels of size that routinely call at their ports.

I consider it shameful that, in most cases, there is a 10- to 20-year delay to attain needed port improvements, and I consider it disgraceful to require a vessel to transit on high tide to accommodate maximum drafts without the possibility of grounding or to transit at low water to accommodate vessels where their superstructures will clear the antiquated bridges over our channel.

I hate to mention the fact that, although this committee has made concerted effort to correct many of the ailments that I have just suggested, we have fallen short in procuring the money and getting the job done.

In my opinion, section 4 of this bill is out of context with other sections of 3486. As expressed in my written statement, this legislation will not enhance marine safety.

I would ask you a question: Who would think that a professional pilot would render service to a vessel differently if it is flagged United States or foreign? I say that's absurd. I suggest that section 4 is contrary to this administrative's initiative to reduce regulation where possible. I suggest that the theme is to give the States more authority rather than increase Federal authority, and here is one good example of a historic States rights being, or attempting to be, diluted and one can only suspect that, once diluted, the ultimate will be dissolution of the State pilotage system.

The section-by-section analysis that was distributed with H.R. 7038, the predecessor to 3486: Four incidents were cited as reasons for amending 239(d). No doubt the Sunshine Skyway Bridge was a very terrible accident and, hopefully, we will never see a similar calamity.

However, as Mr. Thomas well knows—and probably other members of the committee, just 2 weeks ago, we almost had a similar accident involving a bridge in Savannah, Ga.

Mr. JONES. Would the gentleman—Captain, let me interrupt you just a minute. I believe the written notice we sent to you concerning these hearings noted that oral testimony, such as you are giving be summarized and confined to 7 minutes.

Captain NEELY. Thank you, Mr. Chairman.

In conclusion, I will say that the very first Congress gave to the States the authority to regulate pilotage. I suggest that section 4 of this bill would dilute that. I don't think there is cause for it and I would ask consideration for not including section 4 in this bill.

Mr. JONES. Let the record show the gentleman is adamantly opposed to section 4. [Laughter.]

At this time, I am going to ask the committee members, if possible, to confine your questions to 5 minutes so we might move along. We have a long list of witnesses.

I recognize the gentleman from Massachusetts, Mr. Studds.

Mr. STUDDS. Thank you, Mr. Chairman.

Mr. DeFries, in your testimony, you recommend the establishment of an agency of civilian career professionals, similar to the Bureau of Marine Inspection and Navigation that existed prior to World War II. Where might this cadre of experienced professionals be found to man the organization?

Does that expertise exist within Marad or the Coast Guard or merchant marine community? Where might we look for it?

Mr. DEFRIES. Mr. Congressman, I think you would find it in several fields. I think you would find it among the seagoing people in this country, as they retire or as they no longer go to sea.

I think you would find it in the Coast Guard. I think in the maritime academies. And I think Marad itself would have groups of qualified people.

Mr. STUDDS. In the Baltimore News American story, entitled "Sailors Risk Disaster to Remain Employed," it quotes Mr. Jesse Calhoun as saying that seamen must share some of the blame when there are hazardous conditions on cargo ships. That point was made during our July 27 hearing during which the responsibility of licensed officers to advise the Coast Guard of unsafe conditions onboard a vessel was cited.

Does your organization offer the merchant seaman or licensed officer any support or guidance when a vessel is not in compliance with Coast Guard regulations and the choice must be made whether the Coast Guard or the ship's owner should be contacted?

Mr. DEFRIES. I'm sorry, Mr. Studds, I didn't catch all that.

Mr. STUDDS. I'm wondering whether you offer any guidance or support to merchant seamen or licensed officers as to what they should do when a vessel is not in compliance with Coast Guard regulations.

Mr. DEFRIES. We do.

Mr. STUDDS. They must make a choice whether the Coast Guard or the ship's owner should be notified of that.

Mr. DEFRIES. We advise them in all cases to notify the Coast Guard. There is some reluctance on their part because of the inconsistency in the Coast Guard's position on different items that may be in question on the ship.

And it's difficult in these times, as you well know, to preach safety to a guy hungry and when he's looking for a job, because the industry's in very bad shape now. If you read the articles, I'm sure you've observed that many seamen are saying that: "Well, I'd rather not have this brought to the surface because, at least, I've got a job."

Mr. STUDDS. Does your organization ever mediate with owners of vessels that are deemed unsafe to sail by your own members?

Mr. DEFRIES. We have grievances with them on that, yes, sir.

Mr. STUDDS. On fundamental safety questions?

Mr. DEFRIES. On safety questions.

Mr. STUDDS. Your testimony is very critical of the training and experience of Coast Guard marine inspectors. As an alternative, you propose here some kind of civilian inspection program.

What is your estimation of the quality of the ABS inspection since the ships cited in these hearings and in the News American article were also inspected and approved by ABS inspectors, sometimes over the objections of the Coast Guard inspector?

Mr. DEFRIES. Well, I think the ABS inspectors are, by and large, well qualified. But I think the *Marine Electric* demonstrates that sometimes they don't pursue safety as well as they could.

I think it would be much better if the inspection was done under a Federal agency that's completely divorced from outside interests.

I think that the attorney for the Masters, Mates & Pilots made a point the other day that there were several shipping executives on the ABS's board and this may have swayed their decisions.

Mr. STUDDS. Let me ask a question for either you or Mr. Pecquex—whoever wishes to answer. The *Marine Electric*, as you well know, was a converted T-2 tanker. Both the Philadelphia Inquirer and the Baltimore News American articles demonstrated the problems experienced by that type of vessel.

Do you think T-2-type vessels are particularly unsafe? Either one of you, or both.

Mr. DEFRIES. I'm not sure I would say they are particularly unsafe. They are as unsafe, generally speaking, as any 39- or 40-year-old ship.

If you'll recall, the T-2's problem goes back to the *Pine Ridge*.

Mr. STUDDS. Are you suggesting that the problem is one of age, rather than the nature of the vessel itself?

Mr. DEFRIES. Oh, I think it's age. I think it's upkeep. The type of vessel: I'm not so sure that—

Mr. STUDDS. I understand.

You think that those vessels should be subject to some sort of special inspection requirements given those problems and given their age?

Mr. DEFRIES. Mr. Congressman, I'm not so sure that special inspections would be the answer. You know that one Coast Guard inspector will say that a vessel is unseaworthy and should be condemned; finds 100-odd safety violations. They issue an extension on the certificate. It's inspected at a later date in another port. The Coast Guard finds that there's two or three deficiencies in safety which are easily remedied.

Mr. STUDDS. Mr. Pecquex, do you want to respond to those questions?

Mr. PECQUEX. On the question of special types of inspections for certain classes of vessels: I just don't know if that would be wise.

I think we would prefer to see some kind of broad, tough standard that all ships would have to meet, regardless of age, because I think that—especially in today's vessels where we are geared more toward an operational crew as opposed to a crew that also has some maintenance capability—you may wind up with a situation that new ships may be old much before the 20-year-old period of time and certain ships that are 20 or 25 years of age might be in very good condition, depending upon the value that a company has placed in maintenance of a vessel, so I think the standards should be the same for basically all types of vessels.

However, those inspecting a ship should take into consideration the fact that they are now dealing with a vessel that may have traveled many, many thousands of miles in different types of operating conditions.

Mr. STUDDS. I have only time for one more.

While I have you, Mr. Pecquex, may I ask you: you probably recall that, when this subcommittee held an oversight hearing on marine safety in 1981, the SIU testified and charged the Coast Guard with treating the safety of merchant seamen with indifference. Included in that testimony was a long list of alleged shortcomings in Coast Guard manning requirements.

In response to that testimony, I asked at the time whether or not the SIU could provide the subcommittee with a list of vessel casualties which had occurred because of the absence of sufficient numbers of seamen and merchant marine personnel on vessels.

I was told that such a list could readily be provided. We did not get that list 2 years ago and I wonder whether a list like that could be compiled and provided to the subcommittee at this point.

Mr. PECQUEX. Mr. Chair—Mr. Studds, if I best remember, that was in reference to the small-vessel-manning bill that this committee passed at that period—point in time.

Mr. STUDDS. No; it was a general oversight hearing on questions of marine safety in 1981.

Mr. PECQUEX. OK, because I was going to make reference to the fact that we had submitted something on that small-vessel-manning problem at the time and that was the actual Coast Guard report from the eighth district.

We will certainly look into manning lists.

Mr. STUDDS. I would appreciate that.

Mr. PECQUEX. And show—and provide something for the committee in the very near future.

Mr. STUDDS. Thank you.

Mr. FORSYTHE. Thank you, Mr. Chairman.

Mr. DeFries, you referred to a problem, that has come out earlier, concerning a vessel being inspected in one port and then inspected in another with a total difference in terms of the shortcomings that are found.

The ABS testified that they were building a data bank that would have these inspection reports so that they could follow the vessel and, wherever it was inspected, its history would be available to that inspector.

And the Coast Guard also indicated that they were doing the very same thing. Do you think that would help resolve this problem of different levels of inspection depending on what port they are found in?

Mr. DeFRIES. Yes, sir; I think a history of the casualties and inspections on the vessel is absolutely a necessity to the individual inspecting the vessel today.

The Coast Guard, as I understand it, has been working on this program for several years. It's not completed, and, quite often, when the inspector boards the vessel, he does not have this information available to him at that time.

I think it's an excellent idea.

Mr. FORSYTHE. As I understand it, neither the Coast Guard nor the ABS have their systems operational at the current time. ABS is apparently very nearly ready to have it available.

I do have a question which goes to the Coast Guard more than, I think, to you and your people—why the Coast Guard and the ABS can't combine their forces so that that docket is available—to whoever—whether it's the Coast Guard or ABS that inspects that vessel.

That history should be there and available for that inspection. Do you agree?

Mr. DeFRIES. Yes, sir, we would agree to that.

Mr. FORSYTHE. Because I think it's really kind of ridiculous to try and inspect a vessel when you don't know what a prior inspector found.

I agree with a lot of the other things that you've said about the Coast Guard's military rotation policy, where—really, we train people and get them just up to competence and then we move them.



I am intrigued by your idea to establish a separate, civilian government inspection process. I think it's something to look into. I wonder how we're going to fund it, but maybe some combination of ABS and Marad might have some potential.

Mr. DeFries, why was your safety committee not told about defects in the *Marine Electric*, which I understand you were not?

Mr. DeFRIES. Why were we not told?

Mr. FORSYTHE. Yes. Your safety committee.

Mr. DeFRIES. Mr. Pecquex has the safety committee, sir.

Mr. FORSYTHE. Is it possible—because I think you said that they were really getting into this only about 18 months ago?

Mr. PECQUEX. Mr. Forsythe, unfortunately, in terms of that one piece of equipment, we did not represent the unlicensed crew aboard that ship, but there are probably certain limitations that we, even if we're a border vessel, would have in trying to pinpoint certain structural dangers that might pose a problem on a vessel that's out at sea. So that's where we would look to the expertise of the Coast Guard and to other agencies or private sector organizations that could—would inspect the vessel and have responsibility for doing that.

Mr. FORSYTHE. I was greatly disturbed by the third mate, Mr. Kelly, who testified in this area. He indicated as has been mentioned here: When jobs are so scarce, nobody wants to rock the boat for fear of losing the job or even having the ship taken out from under them, which is a worrying problem.

But, if we're not going to have this feed back from those who know that boat best, those who operate it, it seems to me that it does create a problem, so I encourage what you're trying to do in this area. It can be very important.

You, of course, would not be related to the licensed officers on that vessel, would you?

Mr. PECQUEX. Well, I think in terms of our overall goals. We would be, trying to—

Mr. FORSYTHE. But are they a part of your union?

Mr. PECQUEX. No; they are not. They are separate.

Mr. FORSYTHE. And that gets into this "turf" territory.

Mr. PECQUEX. Well, it isn't that much of a problem. You know, I mean there are supervisors and there are nonsupervisory personnel and those lines are pretty clearly drawn.

And I think perhaps we are addressing the marine safety aspect of it but, truthfully, I think all of us would express unanimous thought that the fleet has to be revived and there are other measures before the Congress that will bring about the type of fleet that we think will result in sound investment opportunities and new ships being built that would replace many of those older ships that are presently found in the fleet.

Mr. FORSYTHE. Thank you. I thank both of you gentlemen.

Mr. JONES. Mr. Hughes.

Mr. HUGHES. Thank you, Mr. Chairman. I want to thank the panel.

I just want to pick up, if I might, on part of the line of questioning developed by my colleague from New Jersey on the question of the Coast Guard's new research, involving implementation of the vessel safety inspection system throughout the country.

If I understand your testimony correctly, Mr. DeFries, you feel that the Coast Guard should not be, in fact, handling the inspection of these vessels; that should be vested in a civilian board of some kind?

Mr. DEFRIES. Yes, sir. That's correct. We feel that it's very important that, when an inspector boards a vessel, he has as much of the prior history of that vessel available as he can possibly have. But we don't think this will solve the problem unless the inspector can translate the information and knows what it means and what to look for.

Mr. HUGHES. The heart of your concern is over the multimission aspect of the Coast Guard, their military orientation, lack of resources, the rotation procedures which see a rotation of personnel every 2 years or so—other functions—just do not lend themselves to the type of expertise that needs to be developed. Is that the thrust of your testimony?

Mr. DEFRIES. Yes, sir. That's correct.

Mr. HUGHES. What civilian agency would you utilize as the repository of this cadre of expertise?

Mr. DEFRIES. We would certainly recommend the Maritime Administration, Mr. Congressman.

Mr. HUGHES. A division within the Maritime Administration?

Mr. DEFRIES. Well, we think that it's possible to set up an agency within the Maritime Administration or under the Maritime Administration as a civilian career-type organization that could handle these chores very satisfactorily with career-type people—people that were going to be there 15, 20, 25 years.

Mr. HUGHES. And the line of authority would be to the administrator of that agency?

Mr. DEFRIES. Yes, sir.

Mr. HUGHES. On the question of the conflicting pressures that seamen must have when they board a vessel that they recognize has perhaps some safety problems, are there many instances where seamen just absolutely refuse to go to sea on board a vessel because of age?

Mr. DEFRIES. Yes, sir, there are.

Mr. HUGHES. What is the union's position when that occurs? What does the union do, relative to that owner; that vessel?

Mr. DEFRIES. Well, quite often, Mr. Congressman, this happens overseas where the union has very little involvement until the vessel gets back, at which time normally what happens is the crew on the vessel will refuse to sail it; another crew will go on and sail it. There will be a report made to the Coast Guard. There may be some action taken. There may not be.

Mr. HUGHES. Do you have a record of those instances where seamen absolutely refuse to board a vessel—go to sea?

Mr. DEFRIES. We have some records, yes, sir.

Mr. HUGHES. I wonder if you could make that available to the committee.

Mr. DEFRIES. Yes, sir. Be glad to.

Mr. HUGHES. Thank you.

Thank you, Mr. Chairman.

[The following was received:]

NATIONAL MARINE ENGINEERS' BENEFICIAL ASSOCIATION,  
Washington, D.C., October 11, 1983.

Hon. WALTER B. JONES,  
Chairman, Subcommittee on Coast Guard and Navigation, Committee on Merchant  
Marine and Fisheries, Washington, D.C.

DEAR MR. CHAIRMAN: Enclosed is the edited transcript of my testimony delivered before the Subcommittee on Coast Guard and Navigation on August 2. I trust that the changes made in the interest of clarity and grammatical accuracy will meet with your approval.

You will notice that there are two places in the transcript (both on page 47) where I offered to submit additional information for the record. I am still in the process of formulating an answer for the first of these, posed by Congressman Hughes, concerning figures about marine engineers who refuse to serve on unsafe ships. Rather than let this one question tie up the entire transcript and my other reply, I am sending you the edited version, as well as a detailed response to the dialogue between myself and Congressman Biaggi about the effectiveness of civilian inspectors. That answer is below:

After a great deal of research, we have concluded that it is virtually impossible to use "statistics to sustain the contention that [an agency similar to the old Bureau of Marine Inspection and Navigation] might be more effective or productive," as Congressman Biaggi asked. Accurate statistics on vessel casualties simply were not maintained by anyone in any way prior to 1963, according to officials at the Coast Guard, MarAd, Lloyd's, and the independent Marine Index Bureau, so a comparison of the BMIN with the USCG is not feasible.

However, in light of statistical and quantitative deficiencies, an examination of the qualitative evaluations of the BMIN by Federal and private officials points unmistakably to the fact that the civilian inspection service was highly professional and far above reproach.

The suggestion that the Department of Commerce's civilian Bureau of Marine Inspection and Navigation was "rife with corruption" and that the establishment of a new non-military inspection agency might foster similar improprieties is faulty for two reasons. First, a look at Congressional documents and newspaper reports from the 1930s and '40s indicates that the BMIN was not hampered by corruption; and second, even if graft had affected the performance of the old BMIN, it is not a logical conclusion that a modern bureau under MarAd would have the same problems.

During Congressional hearings in 1947, when the future course and the past history of marine inspection were being documented and scrutinized, not one word about corruption of any kind was mentioned by the Coast Guard, Commerce, the Members, the industry, or any other representatives. The details of this hearing are discussed below.

In 1942 the Coast Guard took over all vessel inspection duties from the BMIN by the authority of Executive Order No. 9083 under the War Powers Act. Four years later, June 20, 1946, President Truman's Executive Reorganization Plan No. 3 made the transfer permanent and augmented the Coast Guard's forces with BMIN inspectors. A year later, the House Subcommittee on Coast Guard, Coast and Geodetic Survey, and Public Health Service held hearings on the transfer and on H.R. 3494, "a bill to integrate certain personnel of the former Bureau of Marine Inspection and Navigation . . . into the regular Coast Guard." During these hearings (June 4th and 5th, 1947, House Report No. 622), testimony about the quality of the original BMIN inspector was exclusively favorable. John J. O'Connor, Counsel for the Coast Guard Society of Marine Inspectors, said: "This Bureau of Marine Inspection and Navigation is one of the oldest bureaus in the government. They are considered an up-standing body of men." [p. 15] "The knowledge and experience of these civilian inspectors were invaluable to the government." [p. 27] The Coast Guard's only stated rationales for the transfer were "economy and efficiency," because the uncertainty of the inspectors' "temporary" status was causing long-range planning problems.

Speaking against the permanent transfer was Captain William C. Ash, National Vice President, Masters, Mates, and Pilots of America. He called the old, experienced BMIN inspectors "geniuses," and explained that "only the most mature, most sensible, and most intelligent of our profession got into that service." [p. 43] He summed up the frustration our industry has felt with the Coast Guard for the past 40 years:

"As a war measure—a perfectly proper and intelligent one—the marine inspection service was absorbed into the Coast Guard. You lost sight of one important fact. The merchant marine is a civilian organization, consisting entirely of civilians. We have continually been against militarizing the situation. We have no other counter-

part in our American way of life where a civilian organization is completely under the jurisdiction of a military organization." [p. 44]

The transcript of the H.R. 3494 hearings also included a letter from the Maryland State Roads Commissioner in Annapolis which supported a return to the original BMIN system, "one of the best supervised inspection services in the world."

What is most important, of course, is what was not in the transcripts. Although this was the perfect opportunity to dig up old rumors or evidence of corruption in the BMIN to help justify the controversial transfer, no wrongdoing was mentioned to the Subcommittee.

It is a fact, however, that prior to World War II there were accusations that the conduct of at least some BMIN inspectors was improper. An examination of newspaper accounts suggests that most of these rumors were instigated by ousted Assistant Secretary of Commerce Ewing Mitchell, whose allegations that his old agency was involved in "racketeering, favoritism, extravagant mail contracts, construction loans, and subsidies" came on the heels of the *Morro Castle* accident in 1935. He told the New York Times [June 21, 1935] that Steamboat Inspection Service agents had "accepted gratuities and were derelict in their duties." He claimed that "U.S. officials are careless in their inspection of these ships. They skim over the inspections. If they were competent, they might discover in advance the cause of fires [like those that sank the *Morro Castle*]." His charges were quite vague, and dismissed by the Department of Justice for "lack of evidence." [NYT, June 22, 1935.] Secretary of Commerce Roper said that his ex-employee Mitchell "treated every rumor or unsupported statement as true" because he had a "deep-seated prejudice" against the BMIN. [NYT, June 22, 1935.] As the Senate Commerce Chairman commented, Mitchell's accusations of corruption "faded out." [NYT, June 22, 1935.] When that Committee published its conclusive 586-page report on the *Morro Castle* disaster [Senate Report No. 72] in 1937, no mention was made of corruption in the inspectors' ranks. The study focused on negligence by the captain, chief engineer, and executive of the steamship line.

In short, if there were any serious cases of BMIN misconduct, they apparently were not noticed by either the Congress or the press. But what the Bureau of Marine Inspection did or did not do forty years ago really seems to have very little bearing on what a civilian, professional inspection agency under MarAd would be like today. It is a sorry confession if U.S. lawmakers are reluctant to establish a badly-needed commission because they fear it might be tainted by corruption or graft. If we don't have faith that our Federal agencies are operating fairly and properly, is there any government action that we can trust? The air today is much more scandal-free than it was in the 1930s, with the advent of safeguards such as the Freedom of Information Act. And to look at the situation from another perspective, the mere fact that an inspector can hide behind a military uniform is not necessarily a guarantee of personal probity, as the recent examples of cronyism and favoritism at the Pentagon demonstrate.

That completes my response to the second of the two questions put to me. I trust that these additional remarks will be duly entered in the record. As I noted earlier, I am still working on a reply for Mr. Hughes's question. Thank you once again, Mr. Chairman, for the opportunity to appear before your subcommittee and discuss some topics of great concern to the Marine Engineers. I also appreciate the consideration you are giving the follow-up letter from Mr. Calhoon about legislation to transfer the inspection duties to a new civilian agency.

Sincerely,

C. E. DeFRIES,  
Secretary-Treasurer.

Mr. JONES. Mr. Franklin.

Mr. FRANKLIN. No.

Mr. Biaggi.

Mr. BIAGGI. Thank you, Mr. Chairman.

Captain Neely, we heard your opposition of section 4. Will the enactment of section 4 have any effect on the safety of ports or the marine environment?

Captain NEELY. No, Mr. Biaggi, I—in answer to your question, section 4 will not improve safety of navigation in the ports.

As I suggested, a pilot does not go down to a vessel, look at the flag and see whether or not he's working under a Federal license

or a State commission. I suggest that they do the job as best they can every time.

Mr. BIAGGI. Mr. DeFries, you recommended that the inspection be returned to civilians, similar to the Bureau of Marine Inspection and Navigation before the war. Do you have any statistics to sustain the contention that that process might be more effective or productive?

Mr. DEFRIES. I would like the chance, Mr. Congressman, to send you something on that if I may.

Mr. BIAGGI. We all recognize that, while we had civilians, the unit that was conducting maritime safety inspections was rife with corruption. That was probably one of the main reasons why it was transferred to the Coast Guard.

Mr. DEFRIES. Well, Mr. Congressman, I would have complete faith that such an organization could be set up under the Maritime Administration that would be free of corruption and this sort of thing.

Mr. BIAGGI. Earlier, we were told that the U.S. fleet, although one of the oldest, is probably one of the safest. Do you dispute these statistics?

Mr. DEFRIES. I think the fleet safety record, Mr. Congressman, would be with the expertise and the professional abilities of the people that man these ships—not that the fact that they are old ships and safe—I think the degree of safety is in spite of their age. I think the average American seaman is egotistical and conceited enough to think that he can take a gallon of cordabond and a little redhand and run a ship anywhere with it. And I think he's one of the best trained people in the world and, when you compare his abilities to the people that are employed on the Panamanian, the Honduras ships and whatnot, I think he is a far superior individual.

I think that's one of the large contributing factors to the safety that we have on the ships today.

Mr. BIAGGI. I take from that your response is that age is not the single valid criteria in determining the safety of a ship. If that be true; if that's the contention you seem to be asserting at this point—then it is contrary to your own testimony that old is old.

Mr. DEFRIES. Oh, I think that age is a contributing factor in the safety of the ship.

I just bought a new car and I didn't look for one that was 40 years old because I didn't feel it would be adequate, safe transportation.

Mr. BIAGGI. I have a list here of 12 worst U.S. merchant disasters in the last 20 years from the Philadelphia Inquirer. There is one 35 years of age; the cause is unknown.

We have another that is 60 years of age; it says the cause was massive structural failure.

What we are talking about? If you are using 20 years as the safety period, then what is a safe operation for 40 years. The reason I emphasize this is because the question of age keeps arising in all of our hearings.

I think maintenance—I think Mr. Pecquex made reference to that—maintenance is critical. You can have an old ship in a half

dozen years if you fail to maintain it. Then, we have ships that are 3 years of age involved in a casualty due to navigational error.

We also have a 13-year ship that has a massive structural failure. I just would like to emphasize that age factor, because there are too many consequences that flow from it.

They also recommend that the owners replace their old ships with new ones. You know that they won't be able to afford to buy them and have them built in America. For that reason, I understand you support foreign building, correct?

Mr. DEFRIES. Yes, we do, Mr. Chairman. That's one of the ways of rebuilding the ships where we will have safer ships.

Mr. BIAGGI. Mr. Pecquex.

Mr. PECQUEX. Mr. Biaggi, on that issue, our stand on foreign building of the magnitude that has been suggested or has occurred in the past for the subsidized operators and for other proposals, we are supportive of keeping the maritime industry as a unit; trying to see as much work as possible for American shipyards as well as the industrial supply base.

Mr. BIAGGI. What you are saying, in fact, is that, given the reality of the financial cost of building American, that you are really encouraging the continued operation of the older ships. There really isn't an alternative.

Mr. PECQUEX. This gets to the heart of some of our other proposals that we are suggesting we think will lead to new vessels being built in the United States and that necessary revitalization of the fleet and it's a totally different issue in one respect but, in another respect, it is all part and parcel: Maritime safety is an important part of it; the availability of cargoes for ships is another part of it.

It cannot necessarily be taken separate and apart, although today we are truthfully looking at the marine safety aspect. If we see the necessary cargo policy, be it bilateral agreements, be it the UNCTAB code, be it cargo preference, we think that you are going to see that necessary investment forthcoming.

You may even require additional Government support for the industry. We have argued long and hard that the Government should not abandon the industry and this, unfortunately, is what is happening, and this—we think—had led to this situation in which we find ourselves now—shipowners unable to build ships in the United States, which we think is a necessary national security and economic value to the country, and being forced to operate vessels perhaps longer than they choose to.

Mr. BIAGGI. I understand that.

Just one last comment. With relation to resources for the Coast Guard, one area where resources are not applicable is in the question of rotation as a matter of policy. I'm not talking about money. We're talking about Coast Guard policy because, clearly, a person does not become expert in marine inspection overnight. This policy is one that should be reviewed.

Thank you, Mr. Chairman.

Mr. JONES. Mr. Borski.

Mr. BORSKI. Yes, Mr. Chairman. Thank you.

Just one brief question, if I may, to Mr. DeFries. To follow up on something that Congressman Hughes asked earlier: Can a mer-

chant seaman refuse to go on a ship, or must he go on the ships where he's needed?

Mr. DEFRIES. Well, he can refuse to go on a ship in the sense that he does not have to accept employment on that vessel. Once he accepts employment on that vessel, he is bound by law to sail that ship. He signs a set of articles that requires him to serve for a certain period of time on the vessel.

Mr. BORSKI. So that, if some disrepair might come to the ship, he would still have to follow through once he had signed on, is that it? I'm just a little unclear here.

Mr. DEFRIES. I guess, if he left, there would be the outside chance or the possibility he could be charged with desertion if he just left the vessel.

Mr. BORSKI. Would he sign up for the vessel before seeing it? Is that likely to happen?

Mr. DEFRIES. Would he what, sir?

Mr. BORSKI. Would he sign up to go on this vessel without first seeing it himself or being on the ship?

Mr. DEFRIES. That's quite possible. He could very well be shipped on a vessel, report to it and the first place he walked into was the captain's office to sign articles. Then, he goes to his quarters.

Mr. BORSKI. Thank you very much.

Mr. PECQUEX. Excuse me, Mr. Borski. I'd like to comment on that. In terms of unlicensed personnel, we have a rotary shipping board so a member knows in advance that a job is coming up on a shipping board and he can choose in advance to select to go aboard that vessel and, depending upon a variety of factors—if he's been out of work for an extended period of time, he might choose to throw in for that job and, because he has the oldest card on the board, secure employment aboard the vessel.

But I think all of our memberships probably gravitate toward certain types of vessels for various reasons.

Mr. BORSKI. Let me ask one further question, if I may. If they decline to go on a ship, do they suffer any consequences from their union?

Mr. PECQUEX. None whatsoever. They—if they've taken a job, all they would be required is to come back and register for employment and that's according to the shipping rules that are jointly run by the Seafarers' hiring hall—in our case, which is the labor-management panel, but they are not subjected to any sort of penalty whatsoever.

Mr. DEFRIES. May I comment, Mr. Congressman?

Mr. BORSKI. Thank you, Mr. Pecquex.

Yes, Mr. Defries.

Mr. DEFRIES. In order for an individual seaman to determine if a ship would be seaworthy or not, he would have to go aboard the vessel and spend a couple of days inspecting it which he probably wouldn't be qualified to do to begin with.

But, certainly, the turnaround of the vessels—the stay in port now has become so critical. The capital investment is so high for a shipowner. His objective is to get the ship in port and get it on the seas so he can continue to make money.

So the time in port is not like it was 20 years ago where you had a week or 10 days in port. You have 18 hours, 20 hours, 2 days.

Mr. PECQUEX. And that brings to bear the point that we are trying to make—that we believe as much maintenance of a vessel should be done while the vessel is underway and at sea and the only way you can do that is if a vessel is adequately manned.

Mr. BORSKI. OK. Thank you.

Thank you, Mr. Chairman.

Mr. JONES. Mr. Foglietta.

Mr. FOGLIETTA. The history of the recent SS *Poet* situation where the ship left the Port of Philadelphia and then disappeared shortly after, I think, encompasses just about all aspects of the problems which face us today in marine safety—merchant marine safety—from the point of inspection of older vessels which have been rehabilitated, to the issue of notification by the owner to the Coast Guard when he knows or should know reasonably that the ship is in danger.

I think it encompasses all aspects of what we are trying to accomplish here. A couple of the questions I have are:

Following the disappearance of the *Poet*, the Atlantic commander of the Coast Guard submitted a report. It stated that a vessel the size of the *Poet* should have more than one EPIRB aboard. Now, how do you feel about that suggestion? How many do you think there should be? How many would be too many, if there is such a number? And how effective are they in notifying the Coast Guard of problems or anticipated problems and what will your suggestions be?

Mr. PECQUEX. Did you say “beeper,” Mr. Congressman?

Mr. FOGLIETTA. An automatic device—EPIRB—

Mr. PECQUEX. Right.

Mr. FOGLIETTA [continuing]. Which is an automatic device, activated by saltwater, I think. Now, we’ve had them from one—I think the regulation now is to have one aboard—all the way over to having a minimum of one on every liferaft or every lifeboat or in every survival kit. I mean: Is that too many, or what was your suggestion?

Mr. PECQUEX. I would think that there should be backup systems aboard every vessel as there undoubtedly are in some areas. They should be, you know, reviewed rather extensively, I think, to determine the relative value and operational characteristics of each.

In the question of the exposure suits, which we have commented on earlier here today and have also commented to the Senate Commerce Committee, we make note of the fact that there should be additional exposure suits and, although it’s perhaps departing to some extent from your question, I think exposure suits probably should have been required onboard that—on the *Poet*.

Mr. FOGLIETTA. Do you believe that there should be one on every lifeboat?

Mr. PECQUEX. I don’t think—depending upon the cost and I don’t have any idea of the cost. It’s some sort of device—should be—

Mr. FOGLIETTA. Does any member of the panel have an idea of the cost?

Mr. DEFRIES. On exposure suits or beepers?

Mr. FOGLIETTA. The beepers.

Mr. DEFRIES. No, sir, I don’t.



Mr. PECQUEX. But I think, without knowing the cost, it's something that's not prohibitive. We would encourage as many sort of notification systems as is possible to point out presence of a vessel or presence of a liferaft in inclement waters.

Mr. FOGLIETTA. Another fact that was brought out in the *Poet* situation was the fact that the Coast Guard does not automatically know when a vessel is in distress. There is no signal to them if there has been a reporting after a certain number of days unless someone actively notifies them.

Now, should there not be some sort of system developed which could be like the aircraft systems whereby, on a radar screen, I think that we could know every aircraft in the air anywhere around the Earth?

Couldn't there be such a system developed for ships?

Mr. PECQUEX. I personally don't know of the expertise in that area and how far we are technologically.

Mr. FOGLIETTA. How about some system—

Mr. PECQUEX. I think something should be—

Mr. FOGLIETTA. How about some automatic system of notifying the Coast Guard when a vessel is in trouble? There's none now.

We're missing. The requirements are that they must notify—I don't remember the name of the agency—every so many hours.

However, there is no automatic notification of the Coast Guard if that is not done after a certain period of time. Shouldn't there be some—

Mr. PECQUEX. Well, I believe that there may be other witnesses here who might testify to the value of satellite in determining—improving communications between vessels at sea and land-based facilities which would alert us to that point.

And I think we would promote the establishment of any system that would definitely improve the pinpointing of vessels at sea. The requirements of the chairman's bill would be mandatory 48-hour reporting. Certain things can transpire during that period of time that will make necessary some sort of communication between the vessel at sea and shore-based facilities to pinpoint a life threatening situation in terms of an accident aboard the vessel or perhaps a—just the ship itself being in danger.

Mr. FOGLIETTA. Well, as I remember the problems we had with the *Poet*, although there are requirements of reporting—periodic reporting, there is no system whereby a red flag goes up when a report is not made in a given period of time.

That's the point I'm trying to arrive at.

Mr. DEFRIES. Yes, sir, Mr. Congressman. There's not a red flag that goes up but it seems to me it's not asking too much for the ship to report to the company and the company have an obligation as the chairman's bill suggests.

Mr. FOGLIETTA. That's the kind of red flag I'm talking about, Mr.—

Mr. DEFRIES. DeFries.

Mr. FOGLIETTA. The owner of the *Poet* at the time had no obligation in his opinion to report to the Coast Guard for 10 days after the ship had disappeared.

Well, we'll get onto those questions later.

Thank you, Mr. Chairman.

Mr. JONES. Mr. Carper.

Mr. CARPER. Thank you, Mr. Chairman.

I'd like to welcome our panelists here this morning and thank you for your appearance and testimony. I'd like to return to a line of commentary from Captain Neely with regards to section 4 of the legislation, which I understand you would like to see modified.

Could you just take another couple of minutes and explain to me again the nature of your concern with section 4? How, again, would you like to see that section modified?

Captain NEELY. Well, Mr. Carper, just to refresh your memory, the context of section 4 would take away the State rights when an accident occurs wherein the Coast Guard could make revocation, suspension, or take action against a Federal pilot license when, in fact, we are not operating under that license.

State pilots have two pieces of paper in most cases, one of which is issued by the Federal Government, an endorsement to our license saying that we are federally licensed pilots. This enables us to pilot on any American-enrolled vessel.

A second piece of paper is issued by the State, giving us—the State pilots—authority to pilot on vessels of U.S. flag under registry and all foreign vessels.

Up until this point in time and since 1789, Congress has determined that the States have full control of the disciplinary problems regarding pilots. This would be an invasion by the Coast Guard to dilute that authority from the States.

No. 1: I see absolutely no safety factor involved. No. 2: I can see, with this authority, that regulations would be promulgated—to what extent I'm not sure but, once given, as the old story goes, the camel gets his nose under the tent; the first thing you know, you've got a tent full of camels.

And this is what we suspect will happen if the Coast Guard gets this authority. If it were in any way related to safety, I might have a very different attitude, but I'm not convinced and I'm here to try to convince the members of this committee that the Coast Guard repeatedly has said they are short of resources—not only manpower and moneywise.

Testimony has revealed that, in some instances, they are not qualified to make the necessary judgment and I suggest to you that the Coast Guard probably could work in conjunction with the State and, after their investigations which they are mandated by Congress to do—work in concert with the States to assure themselves that proper action has been taken when needed.

Mr. CARPER. Captain, if a pilot is negligent under a State license, why should that pilot's Federal license be exempt from action?

Captain NEELY. We say that the pilot in that particular case was not working under that license. He was strictly working under a piece of paper issued by the State.

I am not here to defend negligent pilots. I don't want to construe that idea. Nothing ruins our day more, No. 1, than to have a wreck. [Laughter.]

No. 2, we don't run around defending negligent pilots. For just cause, pilots should be disciplined. I advocate that, and I suggest to you that that is routinely done.

We don't run down to the local newspaper and advertise the fact but some of the bad press that we get as a result of an incident is probably the genesis and the thinking that something need be done.

Mr. CARPER. The Coast Guard has had, for a number of years, an agreement with State pilots that Coast Guard investigative reports would be provided to State pilot commissioners for their information and appropriate action and any disciplinary proceedings that are involved with State-licensed pilots.

And I understand that that agreement was fairly effective. In your opinion, was that agreement indeed effective and also is any consideration being given to reviving that kind of agreement?

Captain NEELY. Well, Mr. Carper, I would endorse—highly endorse—any kind of agreement where the Coast Guard and the State could get their ducks in order.

As you well know in your own State, you have a very active board that does receive reports after Coast Guard inspections—investigations, and I know that you are aware that disciplinary actions are taken against the pilots in your State.

I suggest that the distinguished members from New York and New Jersey are fully aware of the concerted efforts and the good workings of the board in those two States.

I would say that the chairman is well aware that last year, as a matter of fact, the great State of North Carolina improved their pilotage act.

Mr. Studds knows that there are well-founded members of the board of pilots in Massachusetts. And they do mete out disciplinary action when needed.

As other members of the committee know, with regard to their own States, there is concerted effort by the Governor to appoint the people to oversee pilotage and I suggest they do a very good job.

Mr. CARPER. Thank you. My time has expired.

Mr. JONES. Inasmuch as the majority side has consumed about 95 percent of the time in questioning, I am going to vary procedures just a slight bit and recognize the gentleman from New Jersey for a brief statement or two.

Mr. FORSYTHE. Thank you. I was unable to get to Mr. Neely in my last round of questions.

Mr. Carper has opened the door wide open, just where I wanted to go.

Mr. Neely, could you tell us briefly why we have both State and Federal licensing?

Captain NEELY. When the Constitution came into being, the Federal Government recognized that State pilotage was already in existence. In their infinite wisdom, they thought that local knowledge and the local people to control their ports would be the very best way to carry on commerce in the United States.

Mr. FORSYTHE. Well, my question was: Why do we have the Federal license? I think the State pilotage—and I'm aware of our own New Jersey Pilots' Association and the fine work that really is done on the Delaware River and—

Captain NEELY. Sir, in answer to your question, subsequent to the first Constitution and at the advent of the steam engine, it sud-

denly was recognized that there were many vessels being operated on the American waters not under control of State pilotage, so Congress then added to the requirement that all American-flag vessels—except when on the high seas and operating coastwise—would be given a Federal pilot license.

Mr. FORSYTHE. Essentially, as I understand it, it means the Jones Act vessels must have federally licensed pilots.

Captain NEELY. Not only Jones Act but many of the offshore or the seagoing tugboat industry also, Mr. Forsythe.

Mr. FORSYTHE. And coastwise trade?

Captain NEELY. Yes.

And, in the interest of serving the port and the vessels calling at port by requirement of Congress to have a Federal license to operate—or to act as pilot on these vessels, then it is in the interest of those servicing the port and also of the pilots themselves to hold a Federal endorsement.

Mr. FORSYTHE. If there's a real need for that Federal pilotage license, I guess, is what I'm trying to get at. I was ready to suggest we try to get rid of Federal licenses. I'm not sure what we do on the Great Lakes.

They don't require a Federal pilot on coastwise trade even in our own territorial waters, do they?

Captain NEELY. Well, sir, you mentioned the Great Lakes. The Great Lakes has a very different setup than the other ports, inasmuch as there are international agreements with Canada and those people who ply the waters of the Great Lakes and are confined to the Great Lakes have pilot endorsements similar to mates' endorsements on the high seas.

Every vessel is manned by three or four pilots who actually are serving watches aboard the vessels as they ply up and down the lakes.

Mr. FORSYTHE. Different from the pilot—

Captain NEELY. Very much different, yes.

Mr. FORSYTHE [continuing]. In terms of what we think of in normal—

Captain NEELY. However, the registered pilots since 1960 for vessels in the foreign trade also have the Federal endorsement plus the sanction for operating the foreign vessels.

Mr. FORSYTHE. I agree with you that the Coast Guard's got plenty to do—more to do than they can, and I was hoping to find a way to get them out of this business and maybe—I think you came very close to saying it—only in conjunction with a State action should they get into the disciplinary procedures.

Captain NEELY. Yes.

Mr. FORSYTHE. Thank you.

Thank you, Mr. Chairman.

Mr. JONES. I want to thank you three gentlemen for your presence here today and your testimony.

[Witnesses were excused.]

Mr. JONES. I will now recognize the next panel—Charles Calhoun, Radio Officers Union, Marine Engineers' Beneficial Association; and Edward Martin from Comsat.

**STATEMENT OF CHARLES D. CALHOUN, PRESIDENT, RADIO OFFICERS UNION, MARINE ENGINEERS' BENEFICIAL ASSOCIATION, DISTRICT 3**

Mr. JONES. If you possibly could—of course, I don't want you to confine yourself necessarily to this, because the last witnesses did not, due to my error—but, if you could give your statement in about 7 or 8 minutes, we'd appreciate it very much, so we might move on.

You may proceed.

Mr. CALHOUN. Mr. Chairman, members of the subcommittee, I thank you for this opportunity to speak to you on behalf of the Radio Officers Union and the American Radio Association.

My name is Charles D. Calhoun and I am president of the Radio Officers' Union. I am accompanied by Joseph Pinot here on my left, the executive vice president of our union.

We also have the privilege today to speak in behalf of the second largest radio officers' union, the American Radio Association. Combined with these two unions, we represent 93 percent of the U.S. merchant fleet.

In the interest of time, Mr. Chairman, I would like to summarize my remarks and ask that the subcommittee permit my statement to be entered.

Mr. JONES. Without objection, the entire statement will be on the record at this point.

Mr. CALHOUN. Thank you, Mr. Chairman.

[Material referred to follows:]

**TESTIMONY OF CHARLES D. CALHOUN, PRESIDENT, RADIO OFFICERS UNION, DISTRICT 3,  
NATIONAL MARINE ENGINEERS' BENEFICIAL ASSOCIATION AND THE AMERICAN RADIO  
ASSOCIATION**

Mr. Chairman, members of the Committee, I thank you for this opportunity to speak to you today on behalf of the Radio Officers Union and the American Radio Association. Our organizations represent licensed radio officers on 93% of the U.S. merchant fleet. Two years ago my organization, MEBA District 3 -- The Radio Officers Union, furnished testimony for the POET hearings. Since then two more tragedies have taken the lives of seafarers: the sinking of the drilling rig, OCEAN RANGER, and more recently, the loss of the MARINE ELECTRIC.

I am heartened by the introduction of the Maritime Safety Act of 1983, which would make our earlier recommendations for mandatory ship and vessel owner reporting a reality. Another prominent feature of this legislation is money. If wisely invested, money can buy safety. I have some suggestions as to how this money should be invested for safety. but first, I would like to caution you as to how I think it should not be spent.

The Maritime Safety Act would authorize \$10 million dollars toward installation of satellite communications equipment on merchant ships. I think this would be a mistake for the following reasons:

First, based on an expenditure of \$100,000 dollars per vessel which would be required for equipment, installation, and minimum spare parts, and in view of our present active privately-owned U.S.-flag fleet of 476 vessels of 1,000 gross tons or greater, a

total appropriation of \$23.8 million dollars would be needed for the proposed 50 percentum subsidy. 1/ This bill would leave a \$13.8 million shortfall.

Second, this bill is discriminatory. AT&T and our international record carriers provide medium and high frequency radio-telephone and radiotelegraph maritime service through various domestic public coast stations, in direct competition with the services offered by the INMARSAT system. This bill would unfairly appropriate public money to buy radio equipment which is completely incompatible with these coast stations.

Third, the Committee should be reminded that the International Maritime Organization (IMO) has determined that ordinary satellite Ship Earth Stations are not a requirement of the present maritime distress system. 2/.

In January of this year the IMO further determined, in what might be called a landmark decision, that Ship Earth Stations are not, I emphasize not, a requirement of the Future Global Maritime Distress and Safety System being phased in now and scheduled for complete implementation in 1990. 3/. Mandatory satellite communications for the future system will be in the form of the revolutionary new satellite beacon or EPIRB which will operate on board the ship or float free if the vessel sinks. The IMO has determined that various terrestrial radios employing Digital Selective Calling are to meet future distress communications needs.

IMO's January decision has relegated the Ship Earth Station to the status of an expensive option. Moreover, present satellite equipment must be greatly modified to meet the needs of the future system. A \$10 million expenditure now will only buy equipment which is already obsolete in terms of its intended use.

Fourth, satellite radios being considered in this legislation do not have worldwide coverage. For example, a ship bound from the Panama Canal for South Pacific destinations may steam for days with no satellite communication possible. Even the clever arrangements of INMARSAT satellite coverage maps will be very much smaller than depicted for reasons which I will subsequently disclose in this testimony. 4/.

Fifth, satellite radios being considered in this legislation do not work in rough sea conditions. The Achilles Heel of these sets is the antenna with its nearly 600 pounds of complex machinery and electronics which must automatically point a narrow radio beam at the satellite with unfailing accuracy. In heavy sea conditions -- conditions commonly associated with distress situations -- communications are cut off when the ship rolls quickly or more than 25 degrees. I have included a recent letter from Mr. Roger C. Kaney, Radio Electronics Officer of the SS DEL VALLE, which describes his experience with this common SATCOM failure. 5/ I pause to add, that our present telegraph equipment will work unfailingly on a rolling ship until her transmitting aerials are shorted out by waves.



Finally, the satellite radios being considered in this legislation have limited calling channels, 6/ breakdown frequently, 7/ are expensive to repair 8/ and may pose a radiation hazard in some instances. 9/ Satellite radios do not have a reliable fully effective 6-hour emergency battery operation capability as existing telegraph equipment must have for safety and, most importantly, this SATCOM equipment and its space segment equipment possess some very serious vulnerabilities in terms of national defense. 10/ I have treated these subjects, and provided other amplifying data including a letter outlining repair costs in further notes to this testimony which are too detailed to be read here.

For the foregoing reasons, I believe that the contemplated expenditure for satellite radio equipment would be unwise and not in the public interest.

Mr. Chairman, these are rough times for our industry and the nation. We must be especially careful with the public purse. I feel that the \$10 million dollars offered to improve marine communications should be invested in programs for improved vessel radio station inspection and regulation and for improved hull inspections. Better inspections would likely have prevented all three of these recent disasters. In the case of the POE<sup>1</sup> which went down without a distress message being received, better inspection and enforcement of the Communications Act by the Federal Communications Commission would have given this ship a fighting chance that her SOS would have been heard.

I wish to bring to the Committee's attention recent findings of the FCC regarding widespread deficiencies in the 500 kHz transmitting antennas used on American merchant ships. 11/ The Commission has found that only five vessels of a thirty-two vessel test group were able to transmit a clearly perceptible signal two hundred miles and one hundred miles, respectively using the ship's main and reserve transmitters as per the signal strength requirements of the Communications Act. At best the POET had only a sixteen percent chance that her signals would have been heard over the prescribed ranges. According to this report, if she was fitted with a vertical type antenna she had no chance of being heard at these ranges.

Mr. Chairman, this is gross negligence. If the FCC had been doing their inspections properly, mariners and shipowners alike would not be faced with this deplorable situation today. The Commission took four years and seven months to evaluate this dangerous problem and are now proposing three more years to have it corrected. In another pending docket, the FCC is proposing to decrease ship radio station inspection intervals. 12/ They claim this will allow the Commission to "better allocate its scarce resources."

I believe that a genuine lack of funds does exist at the FCC, at least in the Marine Branch, and that this condition is partially responsible for their decidedly relaxed attitude and inept handling of safety regulations. They have evidently determined that careful formulation and administration of needed safety regulations are no

longer affordable. Marketplace forces are to govern radio safety from now on. Shipowners are to determine safety requirements -- its cheaper that way.

Mr. Chairman, I wish to emphasize that effective safety regulations for seamen must always be in place and that frequent, indepth inspections will always be necessary to enforce these regulations. Congress must not stint the Federal Communications Commission. The Safety of seamen depends just as heavily on the Commission's inspections as it does on the Coast Guard's. A poor electrical connection or even a missing spare part may sink a ship just as effectively as a crack in her hull plates.

Again, I believe that the very substantial amount of money offered by this legislation to improve communications would best be invested in a program of improved inspection and regulation of ship radio stations. New, complex, telecommunications systems are already in use on many modern American merchant ships while still more complex systems are to be shortly introduced.

As radio electronics officers, we welcome this new era as a challenge to our radio operating and technical maintenance skills. However, we must caution Congress to provide the necessary guidance and assistance to insure that the FCC is able to safely and effectively regulate these new systems. Failure to do so can only mean an acceleration in the present drift toward neglect and danger in radio safety for seafarers.

Thank you, Mr. Chairman.

## EXPLANATORY NOTES

1. U.S. MERCHANT MARINE DATA SHEET  
U.S. DEPARTMENT OF TRANSPORTATION  
Maritime Administration  
April 1, 1983
2. Convention Between the United States of America and Other  
Governments -- SAFETY OF LIFE AT SEA, 1974 Chapter IV.
3. International Maritime Organization Draft Carriage Requirements  
for the FGMDS COM 25/12.
4. Geographical Access. INMARSAT satellites do not provide complete  
coverage of all ocean areas of the world. In addition to Arctic  
Seas, well travelled areas of the North Atlantic e.g., the North  
Cape leading to North Russian ports and a very large area of the  
South Pacific have no satellite coverage. Moreover, we are told  
that economic factors will prohibit improvements in coverage.

It is important to note that coverage area boundaries are based on  
an antenna elevation of only five degrees above the horizon.  
Given the fact that ship satellite antennas do not depress below  
the horizontal plane and that they may not be redesigned to do so  
without great expense, INMARSAT coverage as depicted on this map  
is only possible during dead calm sea conditions. Vessels  
encountering sea conditions which would cause only a few degrees  
of roll or pitch near coverage area margins will experience a loss  
of contact with the satellite. Obviously, for practical purposes  
and particularly for distress communications purposes, the  
INMARSAT coverage area is many thousands of square miles smaller  
than advertised.

Radio equipment installed aboard our merchant ships must be  
capable of effective and unfailing operation regardless of vessel  
location. The INMARSAT commercial satellite service cannot  
satisfy this requirement.

5.

SS DEL VALLE  
HOUSTON. TEXAS  
MARCH 9. 1983

MR. JOSEPH PENOT  
RADIO OFFICERS UNION  
NEW ORLEANS. LA

DEAR JOE,

I THOUGHT YOU MIGHT BE INTERESTED IN A PROBLEM WE HAD THE OTHER DAY WITH OUR SATELLITE COMMUNICATIONS TERMINAL. WE HAVE THE SCIENTIFIC ATLANTA MODEL 3055M.

WE RETURNED FROM WEST AFRICA, AND DOCKED AT HOUSTON ON MARCH 5TH. DURING MARCH 4TH, THERE WERE GALE WINDS IN THE WESTERN PART OF THE GULF OF MEXICO. THE SHIP HAD ONLY A FEW TONS OF CARGO. AS A RESULT, WE ROLLED 35 DEGREES MUCH OF THE DAY.

IT WAS NECESSARY TO RESET THE ANTENNA CONTROLS FOR THE DISH ANTENNA EVERY FEW MINUTES. IF THIS WAS NOT DONE, THE DISH WOULD NOT TRACK THE SATELLITE, AND THE TERMINAL WOULD DROP OUT OF SERVICE.

ACCORDING TO THE TECHNICAL MANUAL, THE UNIT IS DESIGNED TO COMPENSATE FOR UP TO 25 DEGREE ROLLS. SINCE WE WERE ROLLING UP TO 35 DEGREES, AND MAYBE MORE, THE ANTENNA COULD NOT TRACK PROPERLY.

WHEN I WENT OFF WATCH, THE TERMINAL DROPPED OUT OF SERVICE AFTER A FEW MINUTES, AND STAYED THAT WAY UNTIL I CAME ON WATCH AND RESET THE ANTENNA.

*Roger C. Kaney*  
-----  
ROGER C. KANEY R.E.O.  
SS DEL VALLE

6. Satellites of the International Maritime Satellite Organization are provided with only two request channels. Before actual contact is possible with a Coast Earth Station (CES), a Ship Earth Station (SES) must first gain access to one of these request channels in the satellite. Until this is accomplished absolutely no communication -- distress or otherwise -- can be carried out with the SES. Pressing the ships' distress button (Distress Priority Request) which insures a clear traffic channel will also have no effect until the ship gains access to one of the request channels. While the ships' request for channel pulse is short, hundreds of ship stations must share only two request channels. Simultaneous requests for channels by several ships will normally result in a delay of from twenty seconds to a few minutes. Such delays are unacceptable for distress communications. In a case where a distressed vessel has met with sudden catastrophe, even a momentary delay in transmitting a distress signal would spell doom for the vessel's crew.

To view this problem in a broader context, we must examine the events of February 1, 1982. On this day the newly formed INMARSAT organization assumed operational control of COMSAT's MARISAT system. One might expect delays or interruptions due to technicalities, but there was little forewarning of the colossal traffic jam which took place. This blockage lasted for hours and was not attributable to technical problems but rather to circumstances beyond normal control. The system was simply overloaded by vessels attempting to "check out" the new system.

We believe that a repetition of conditions such as these are highly probable in the case of natural disasters or other events such as a sudden outbreak of war. Because of this susceptibility to overloading, because this susceptibility will only increase as more vessels use the system, and because present satellite and ship equipment cannot be modified without great expense, the present INMARSAT system will continue to be an undesirable method of radio communication where instant contact with distant stations is of vital importance.

7. As a merchant marine officer group charged with responsibility for the day-to-day maintenance and operation of ship satellite communication equipment, we feel that we are particularly well qualified to evaluate it. The Radio Officers Union has recently conducted an onboard maintenance survey of all satellite equipped vessels under its contracts. More than thirty vessels have replied with written statements, copies of teleprinter conversations with COMSAT repair technicians, and equipment repair slips from ITT, MARISAT and others. The results of the survey were furnished to the FCC (FCC General Docket No. 82-36) which had requested information as to the advisability of making ship satellite equipment more reliable for possible distress communications purposes.

In addition to incidental facts concerning the probable destruction of INMARSAT type satellites in the event of nuclear war, our comment to the Commission furnished ample evidence of a pattern of SES equipment failures related to what are termed environmental factors. The survey has shown that below deck SATCOM equipment is prone to failure and that the failure incidence increases according to radio room temperature fluctuations. It is a fair statement to say that if a ship's air conditioning fails it's SATCOM will fail.

Ship satellite antenna failures are a frequent and serious detriment to SATCOM reliability. Both the actively stabilized and the newer passively stabilized antennas show a high failure rate. This is attributable to two factors. First, the great complexity of both the electronic and servo-mechanical arrangements of the stabilized antenna platform naturally make the system trouble prone. Second, inertial forces are in constant opposition to this complex positioning machinery which is evidently not durable enough to take the constant beating it receives. Our concerns were mirrored in the Commission's Final Rule (Federal Register Vol. 48, No. 41, March 1, 1983, Page 8460) which includes a stinging statement of dissent by Commissioner Henry M. Rivera regarding weak SATCOM environmental requirements and inspections.

We have found by direct operational experience that, because of its inherent complexity, shipboard satellite communication equipment frequently breaks down. Not only are breakdowns frequent, needed repairs are often impossible because no spare parts are available on the ship or in most foreign ports.

Legislation dealing with radio equipment of any kind should specifically provide for full spare parts requirements.

8. Perhaps one of the best methods of judging satellite equipment reliability is to examine its maintenance costs. SATCOM maintenance costs are high. A not unusual account appears below.

8 FEBRUARY 1983  
USNS SEALIFT CHINA SEA/NHAR  
CORPUS CHRISTI, TEXAS

JOSEPH PENOT  
RADIO OFFICERS UNION  
606 BARONNE BLDG  
NEW ORLEANS, LA. 70112

DEAR MR. PENOT:

THE FOLLOWING IS AN ACCOUNT OF THE INMARSAT PERFORMANCE DURING MY SIX MONTHS TENURE ABOARD THE USNS SEALIFT CHINA SEA.

WHEN I BOARDED IN THE SHIPYARD IN JACKSONVILLE, THE MACKAY TECHS WERE ALREADY WORKING ON THE SET. THEY HAD FOUND THE ANTENNA DRIVING INTO STOP AND STALLING, WHICH THEY CORRECTED BY REPLACING THE SERVO - COMP BOARD. THE ANTENNA WOULD DRIFT OFF THE SATELLITE BUT IT WAS THOUGHT THAT BECAUSE THERE WAS NO GYRO FEED, IT WOULD DRIFT. WE HAD TO WAIT FOR THE GYRO FEED TO CHECK OUT THE DRIFT BUT WERE IN THE SHIPYARD FOR 20 DAYS AND THE GYRO WAS STARTED ONLY 2 HOURS BEFORE SAILING TIME, DUE TO FREQUENT SHIP'S POWER FAILURES. IN ROUTE TO FREEPORT, TEXAS I FOUND THE ANTENNA STILL DRIFTED FROM THE SATELLITE ALTHOUGH IT FOLLOWED THE GYRO COMPASS EXACTLY.

JUST PRIOR TO ARRIVING FREEPORT, TEXAS, THE KEYBOARD ON THE TELEX FROZE. A NEW STEP TRACK BOARD WAS SUPPLIED TO CORRECT THE DRIFT, AND THE TELETYPEWRITER WAS REMOVED FOR CLEANING AND REPAIRS. ON CONNECTING THE TELETYPEWRITER AND CHECKING IT OUT, RESISTOR R1 ON THE TTY STUNT CARD, IN THE SET ITSELF, BURNED UP. NO REPLACEMENT WAS AVAILABLE.

ON THE WAY TO PINEY POINT, MD. I FOUND THE ANTENNA STILL WOULD NOT TRACK. AT PINEY POINT, MD. THE STEP TRACK BOARD WAS REPLACED FOR THE 2ND TIME. THE CONTROLLER INTERFACE BOARD WAS ALSO REPLACED. ON THE ABOVE MENTIONED STUNT BOX BOARD, R1 AND R2 WERE BURNED UP. THE STUNT BOX BOARD WAS REPLACED; THE 3 BOARDS REPLACED AT PINEY POINT CAME TO A TOTAL OF \$8,139.08, LESS TRADE INS (IF ACCEPTED). ALSO WAS FOUND THAT THE ANTENNA HANGS UP WHEN IT GOES INTO LIMIT FOR AZIMUTH.

WE MADE A ROUND TRIP FROM THE GULF BACK TO YORKTOWN, VA, DURING WHICH TIME I TRACED THE CAUSE OF R1 IN THE STUNT BOX BOARD, TO THE STUNT BOX ITSELF TO A PART WITH A "U" DESIGNATION, WHICH IS EITHER AN ELECTRONIC SWITCH OR A TRANSFORMER. IN YORKTOWN THEY BROUGHT ABOARD A NEW TTY MACHINE (\$3,500), AND REMOVED THE OLD ONE FOR TRADE IN. THEY FOUND THE ANTENNA HANGING UP WAS DUE TO FROZED BEARINGS IN THE STEPPER MOTOR, WHICH THEY REPLACED (\$700). A NEW STUNT BOX (\$800), AND A NEW MOTOR POWER STAGE (\$1,500) FOR A TOTAL OF \$6,660, NOT COUNTING LABOR.

EXCEPT FOR THE ANTENNA NOT TRACKING THE SATELLITE, THE MARISAT WORKED FINE AFTER THAT, ALL THROUGH OUR TRIP TO ARUBA, ENGLAND, AZORES, CYPRUS, GREECE, ROTA SPAIN, AZORES AGAIN, AND ONE COASTWISE TRIP BACK IN THE STATES. I WOULD KEEP THE ANTENNA POINTED IN THE RIGHT DIRECTION BY UPDATING IT MANUALLY, TUNING IT IN TO THE STRONGEST RCV SIG. THE OLD TELETYPEWRITER WAS RECONDITIONED AND BROUGHT ABOARD THE SHIP IN ENGLAND, TO BE USED AS A SPARE.

I WAS SAYING THE INMARSAT (MARISAT) WORKED FINE; THAT IS UNTIL JUST BEFORE ARRIVAL PORT ARTHUR, TEXAS, AROUND JAN 31, 1983, WHEN THE SATELLITE WOULD NOT, SEEMINGLY, ANSWER BACK. THE SHORESIDE TECHNICIAN FOUND IT TO BE THE POWER AMPLIFIER, IN THE ANTENNA. A NEW ONE WAS ORDERED FROM SCIENTIFIC ATLANTA, BUT MARINE TRANSPORT LINES DECLINED TO BUY AND HAVE IT INSTALLED AT THIS TIME. (ABOUT \$3000 FOR THE PA). SO AS OF THIS MOMENT, THE MARISAT IS INOPERATIVE.

BEST REGARDS

*Stephen Reeder*

STEPHEN REEDER, ROU C9T 5131

\*R1 BURNED UP ON THE NEW STUNT BOX BOARD.



9. Radiation Hazard. Ship satellite transmitters operate at microwave frequencies. Unlike a microwave oven which confines radio frequency energy in a safely shielded container, the ship satellite transmitter feeds its energy to a directional dish type antenna which concentrates transmitter power into an intense penetrating beam. We feel certain that SATCOM radiation poses a safety hazard on some vessels, particularly in cases where antennas are mounted on short pedestals at lower deck levels. Our Comments to FCC General Docket No. 79-144 regarding biological effects of radio frequency radiation is an in-depth discussion of this problem.

It is our understanding that both the EPA and OSHA are presently conducting research in this field with a view to possibly decreasing permissible exposure levels in the workplace. Until their findings are known and until the International Maritime Organization clarifies SATCOM installation requirements which should also encompass this problem, we feel that ultimate SATCOM costs cannot be accurately determined.

In our judgment decisions for large scale SATCOM installation programs should be delayed until more is known about the effects of ionizing radiation.

10. Unlike conventional high or medium frequency radio signals which blanket large portions of the globe by groundwaves or reflected skywaves, all ship SATCOM signals must funnel through a tiny stationary device of which the exact position and operating frequencies are known. INMARSAT satellites are therefore highly susceptible to disablement. The much publicized electromagnetic-pulse (EMP) of nuclear warfare would certainly destroy them, but it is far more likely that terrorists, hostile political groups, or deranged individuals would make the INMARSAT system a target by simply jamming one of the satellites. For example, a determined vandal with a soldering iron and a few minutes time could alter a ship terminal so that it would feed a continuous succession of request for channel bursts into the satellite. If sent on both request channels, satellite blockage would be complete.

Another vulnerability of satellite communication in terms of military applications, is the fact that ships' equipment must radiate a signal when both sending and receiving messages. With conventional radio, of course, receiving ships cannot be located by radio direction finding, but INMARSAT vessels can easily be located by high altitude RDF equipped aircraft. If an INMARSAT equipped vessel were known to be in a sensitive area, say, off the Libyan coast, to assist their spotting aircraft, all the Libyans would have to do would be to place a call to the vessel from any telex in the world. In so doing, the ship's transmitter would automatically be turned on and held on while the spotting aircraft got a pin-point fix. Perhaps, it is for these reasons as well as for probably numerous other military reasons that the Soviet Union, which owns 14 percent of the INMARSAT organization, has seen fit to install only 10 terminals on their merchant ships.

According to the section-by-section analysis provided with last year's H.R. 7038, Section 3(c)(1) establishes that it is the sense of the Congress that marine satellite communications should be encouraged for the purposes of safety of life at sea and national defense. As has been our shipboard operational experience and as we have explained in this testimony, ordinary INMARSAT satellite communication equipment is not reliable enough to be used for distress communications. 'If we know, for example, that SATCOM will not work in rough seas and that it is useless for distress communications under these conditions, how then can it be considered suitable for national defense? We urge the Congress to consider that both the exigencies of military operations and safety of life at sea require an exceedingly high degree of equipment reliability as well as a communication mode which is free of inherent weakness. In its present state of development, SATCOM cannot meet these requirements.

11. FCC PR Docket No. 83-11  
Federal Register, Vol. 48, No. 24  
February 3, 1983, Page 4847
12. FCC PR Docket No. 83-428  
Federal Register, Vol. 48, No. 102  
May 25, 1983, Page 23446

Mr. CALHOUN. Before summarizing my paper with which I intend to bring out many faults in regards to the satellite equipment, I would like to say in the beginning that, when the satellite equipment is working properly and in good weather, it does enhance our marine electronic equipment.

It does not substitute for any of the equipment, but it does enhance it. However, it was not designed for safety purposes and distress purposes and that is why I have written this paper.

Mr. Chairman, in H.R. 3486, I know you have put many hours in authoring a bill for the safety of our seamen at sea, and I know you have come up with some good suggestions. However, after my 25 years' experience as a radar electronic officer at sea—I do feel that I am qualified to bring out some of the points—particularly bring out comments on the satellite equipment.

The Marine Safety Act would authorize \$10 million toward the installation of satellite communications on merchant ships. I think this would be a mistake for the following reasons:

First, an expenditure of \$100,000 per vessel, would be required for equipment, installation, and minimum spare parts. Our present active privately owned U.S.-flag ships of 1,000 tons or greater, is equal to 652. Of that amount, we have 176 which are equipped with satellites.

That would mean 476 vessels now sailing without satellite equipment. Your bill would propose to subsidize 50 percent which would come to—actually, if we subsidized all 476, that would be \$47.6 million on a 50-percent basis, and we would come up with \$23.8 million if we were to subsidize the entire fleet.

Your bill is proposing \$10 million, which would show a shortfall of \$13.8 million.

If this bill would pass, I would ask on which ships would we put these satellites—the older ships or the newer ships that use this vehicle as a commercial venture?

So we do have a problem there which we would like to look into.

Second, there is a discrepancy in this bill. We have American Tel & Tel, I.T.T., Tropical Radio, and Baltimore Radio which all operate a medium- and high-frequency radio telephone and radio telegraph maritime service to various public domestic co-stations. All would be in direct competition with the services offered by Inmarsat if we were to subsidize and put these satellite terminals aboard the American merchant marine.

Third, the subcommittee should be reminded that the International Maritime Organization, IMO, has determined that the ordinary satellite ship Earth stations are not a requirement for the present maritime distress system. The future global maritime system, which the International Maritime Organization is planning today for the 1990's, does not include satellite terminals that we are talking about today.

Their plans are for a future global maritime to put up their own satellites in a polar orbit and to work on the EPIRB system and digital select calling which, of all things, do not include our present satellite system.

IMCO has also said that the ship's Earth station is a very expensive option and more of our present satellite equipment must be greatly modified to meet the needs of the future system.

Fourth, satellite radios being considered in this legislation do not have worldwide coverage. For example, a ship bound from the Panama Canal going for the South Pacific or due west may steam for many hours with no satellite communications.

The Inmarsat map indicating the communications to the Pacific, shows where once leaving the Panama Canal, you could steam 10 hours without communications. And, once communications were gained, your antenna dish would be on a parallel of 5°.

So that meant if the ship did any rolling for the next day or so, your dish would be down as far as sending a signal directly to the bird.

Fifth, the satellite radios being considered in this legislation do not work in rough seas. The Achilles heel of these sets is the antenna with its nearly 600 pounds of complex machinery and electronics which automatically point a narrow radio beam at the satellite with unfailing accuracy.

In heavy sea conditions, commonly associated with distress situations, communications are cut off when the ship rolls quickly or more than 25°.

Finally, the satellite radios being considered in this legislation have limited calling channels. They also have frequent breakdowns, are very expensive to repair and they pose hazards in some instances.

For the foregoing reasons, I believe that the contemplated expenditure for satellite radio equipment, particularly for distress, would be unwise and not in the public interest.

Mr. Chairman, these are rough times for our industry and the Nation also. We must be especially careful with the public purse. And I feel that the \$10 million offered to improve maritime communications should be invested in programs for improved vessel radio station inspection and regulations for improved hull inspections.

I wish to bring to the committee's attention recent findings of the Federal Communications Commission regarding widespread deficiencies in the 500-kilohertz transmitting antennas, which is the distress frequency for our merchant fleet on American ships.

The Commission has found that only 5 vessels of the 32-vessel test group were able to transmit a clearly perceptible signal 200 miles on full power and 100 miles when operating an emergency on battery power.

At best, the *Poet* had only a 16-percent chance that her signals would have been heard over the prescribed ranges. That leaves 17 percent of the vessels now sailing have passed the FCC's test; 83 percent sailing now have not passed that test.

Mr. Chairman, this is gross negligence. If the FCC had been doing their inspections properly, mariners and shipowners alike would not be faced with this deplorable situation today.

The Commission took 4 years and 7 months to evaluate this dangerous problem on ships' antennas on the 500-kilohertz system. And now they are proposing 3 more years to have it corrected.

In another pending docket, the FCC is proposing to decrease ship radio station inspection intervals. They claim this will allow the Commission to "better allocate its scarce resources."

Mr. Chairman, my counterpart, Mr. DeFries, of the Marine Engineers' Beneficial Association, pointed out some of the inadequacies of the Coast Guard and their inspection systems. I, too, would like to point out the shrinking duties the Federal Communications Commission is doing right now in regards to another inspection—marine electronic inspection—which is another part of this safety system we have today.

The FCC is now saying they want to decrease their inspections when we are coming at a time that our marine electronic equipment is aging as well as the ships and I think it should be increased.

That, Mr. Chairman, sums up my statement.

Mr. JONES. Thank you, Mr. Calhoun.

Mr. Martin.

#### STATEMENT OF EDWARD J. MARTIN, VICE PRESIDENT, INTERNATIONAL OPERATIONS, COMSAT

Mr. MARTIN. Thank you, Mr. Chairman.

I am Edward J. Martin, vice president, international operations of Comsat.

My entire statement is available for the record but, in compliance with your request, I will summarize.

It was about 20 months ago when I had the privilege of addressing the entire committee on the benefits of maritime satellite communications for marine safety. I appreciate this opportunity to provide your subcommittee with an update today.

We have now about 1,900 ships and offshore facilities using the global satellite system operated by the International Maritime Satellite Organization, or Inmarsat. Comsat is, I think you know, the congressionally designated U.S. entity to Inmarsat and the largest partner in the enterprise.

Some indication of how this system is being accepted is the fact that we continue to find about 50 more ships joining the system every month. We think we have something going here, Mr. Chairman.

The Inmarsat system is now in routine use by ships flying the flags of some 29 nations. This includes cargo ships, tankers, oil drilling platforms, cruise ships, government vessels and yachts—fishing boats, et cetera.

What the system provides basically is the same grade of communication service that we are used to on shore. Automatic telephone, telex, data, facsimile, and the like.

When the Inmarsat system began operation on February 1, 1982, it took over from the Marisat system which was developed by COMSAT in the United States, as I think you know.

That system had been providing reliable communications since the middle of 1976 when we opened up for business in the Atlantic and Pacific regions. In 1978, a Japanese coast Earth station joined the system, thus enabling global service for the first time.

In May of last year, a new high-capacity satellite called MARECS was brought into service in the Atlantic Ocean region, increasing the telephone capacity by more than a factor of four in that region.

Earlier this year, the first of a series of Intelsat V satellites was brought into service in the Indian Ocean region, providing higher capacity for the first time in that region.

Before the end of this year, we'll have two more launches of these Intelsat V satellites, which will provide a full backup further higher capacity in the Indian Ocean region and higher capacity for the first time in the Pacific.

By sometime late next year, we expect to see the launch of the second of the European-built MARECS satellites, so that we'll have two high-capacity satellites also in the Pacific Ocean region.

As I indicated, when the system started, there were just two stations in the United States. Today, we see stations in Norway, England, Singapore, Kuwait; a second station in Japan; and additional stations scheduled in the near future for Brazil, France, the Soviet Union, and Italy.

Just yesterday, Inmarsat issued a request for proposals for a newer generation of satellites to begin service by the middle of 1988 in anticipation of the need for substantial increases in system capacity requirements.

Some indication of the usage of the system can be seen in the fact that, since the first full year of service in 1977, the amount of traffic being carried over the system has just about doubled every year so. Again, I say: I think we're doing something right.

As far as the equipment is concerned, there is now a great deal of competition in the marketplace; there are about 12 manufacturers in the world, making equipment available for ships.

I think competition has brought the prices to levels more favorable than you may have heard this morning, and we will be supplying you with a list of those manufacturers with our statement.

There are approximately 570 privately owned ships of U.S. registry; according to our records, about 200 are equipped with shipearth stations. We think, based upon our assessment, about another 200 would be good candidates for use of satellite communications system equipment.

Since the very outset of this satellite system, we've been very concerned with safety of life at sea. And there is, in fact, a unique feature in the system that permits an operator on board a vessel to immediately send a distress message and, if necessary, stop a routine call in order to cut through to shore.

As a matter of fact, the satellite system is so reliable in itself that the need to make use of this feature would be unique because instantaneous communications are routinely made available to ships at sea.

I would like to mention that Inmarsat is working closely with the International Maritime Organization in the planning process for the future global maritime distress and safety system. A cornerstone of this system is satellite communication capability. We think that section 3(c) (1) and (2) of this bill would go a long way toward assuring successful implementation of this distress and safety system.

Needless to say, we have a somewhat different view of satellite communications in the future from that expressed by Mr. Calhoun, Mr. Chairman.

I'd be pleased to answer any questions.

Thank you.

Mr. JONES. Mr. Forsythe. Any questions?

Mr. FORSYTHE. Thank you, Mr. Chairman. It is evident that there is some difference of opinion here at the table on this issue.

As far as satellite coverage, are you telling us that we are now very close to universal coverage in terms of the world seas?

Mr. MARTIN. Yes, Mr. Forsythe.

You may be interested in a quick summary of the results of the test program we just concluded with Cunard Lines for the *Queen Elizabeth II*. The *Queen Elizabeth II* sailed through the so-called gap twice earlier this year on a world cruise and, in cooperation with the radio officer on board, we ran a test program.

Basically, what the radio officer found was a significant period of time when he could take his choice between the Atlantic and Pacific satellites rather than there being a dead zone.

So we are very close. The elevation angles, as have been indicated, are low but the antenna does not go down with the ship. The antenna is stabilized to continue pointing out to the satellite even when the ship rolls, so there's nothing magic about 5°.

Mr. FORSYTHE. Again, in this same area, what seemed to me like a significant point that was raised: The difficulty in inclement weather and bad weather. We run into most of the problems with ships sinking then and keeping that latch on the satellite becomes very difficult.

Mr. MARTIN. The 1,900 vessels that we are currently operating with the system don't give us the same reports that we've heard

this morning. They don't seem to have trouble staying on the satellite.

The fact of the matter is that the beam is not all that narrow. It's about 10°. It requires pointing, but it's technologically trivial compared to systems, for example, in use by our military.

Mr. FORSYTHE. Well, the committee has been concerned about the ability, most particularly in emergency times, to have adequate communication.

You wouldn't contend that this should supplant all radio communication, would you?

Mr. MARTIN. Mr. Forsythe, our intention is not to force anyone to use satellite communications or supplant any radio equipment.

Our intention is to make the system so good that everyone will want to use it.

Mr. FORSYTHE. Mr. Calhoun, your point, in large measure, concerns the inadequacy of the present equipment, and of FCC enforcement, based on the inspection that says that only 17 percent of our radio communications on our merchant fleet is adequate. Is that correct?

Mr. CALHOUN. The FCC has set down those facts and figures. In the period of 4 years and 7 months, they inspected only 32 vessels and 5 passed the test.

The inspection we are concerned about is the antenna system on the 500 kilohertz which is the distress frequency. And the FCC standards are that the ship must be heard 200 miles in a diameter on main power and, on emergency reserve power, 100 miles.

Now, out of the 32, only 5 passed that test. Now, they say we need another 3 years to correct this. This is out in their prepared documents.

Mr. FORSYTHE. This is not a major cost, is it, in terms of a vessel to maintain that level of adequacy so far as—

Mr. CALHOUN. No, sir. It's an obligation.

Mr. FORSYTHE. Yes, but what's the excuse why the radio equipment on board isn't adequate? Is it dollars?

Mr. CALHOUN. That is the excuse now, sir.

Mr. FORSYTHE. Really, is it?

Mr. CALHOUN. I do not think entirely. We are in an era now of deregulation within the Government. The FCC is continuing to deregulate, and they've come up now with an idea to eliminate inspections.

Mr. FORSYTHE. Well, certainly, this has been true before the change in attitude toward regulations. This isn't really the cause of it but it may create further problems down the road.

The fleet didn't get down to 17 percent of adequacy through deregulation.

Mr. CALHOUN. Well, originally, in the early 1960's when I was going to sea, we used to have what we called the long-wire antenna—from mast to mast, which is the better antenna.

We come into the container ship age and container ships came into port and stay 8 to 10 hours and leave. So, in taking time to take that long wire antenna down, docking and putting up, undocking—you are using a couple of hours.

The steamship companies said we must improve this, so the radio companies come up with the vertical antenna which never had to be moved.

This was type approved by the FCC, although it has never, never done its job. When we had inspections when I was going to sea, we used to go out and spray it down with freshwater to get the saltwater off so we could get something out of the antenna; on many occasions water filled up in the vertical tube. We would drill a hole in it to let the water out.

This was type approved by the FCC. They finally got around and said: We have a problem. They made their inspection but still nothing is done on that vertical antenna.

Mr. FORSYTHE. Thank you very much.

Mr. JONES. Mr. Borski.

Mr. BORSKI. Thank you, Mr. Chairman.

Mr. Martin, the International Maritime Organization is planning to develop and test a ship terminal which will include communication capability between ship, shore, and aircraft. Does this mean that currently used ship terminals cannot effectively communicate ship to ship or ship to aircraft?

Mr. MARTIN. Mr. Borski, ships today are communicating through the system between one another. It simply involves bouncing the call back through the coastal Earth station to the other ship in question. In fact, you can call from a ship in the Atlantic to a ship in the Pacific just the same as you place any other call.

The use of aircraft in the system is another question. I think you may be referring to the work being done by the International Maritime Satellite Organization, rather than IMO. They are looking at a kind of terminal with a very low performance antenna that might be practical on board aircraft which could use the Inmarsat satellite system for safety purposes or slow-speed data transmission, and that study work is underway. There are no definite development plans at this point.

Mr. BORSKI. That's all, Mr. Chairman.

Mr. JONES. Mr. Foglietta.

Mr. FOGLIETTA. Mr. Martin, would you, if you could, briefly tell us what the overall system is today for distress communications for vessels?

Mr. MARTIN. Well, I don't think I'm qualified to address the overall distress communications system for vessels. I can simply tell you what's available for ships that are equipped to use the satellite system. All of these ships have the capability of immediate access to rescue authorities.

Here is the way we operate in the United States; if the ship operator chooses to send a distress message, this automatically rings alarms and starts machines printing in Washington and tubes flashing at the coast Earth station as was the case in the *Prinsendam* rescue, and the caller is immediately connected to the local rescue coordination center. The other distress communications facilities—I think perhaps Mr. Calhoun could address better.

Mr. FOGLIETTA. Mr. Calhoun?

Mr. CALHOUN. Yes, sir. I originally said in my speech here that the satellite was a good communications system for commercial communications—very good—when it is working properly.



Come breakdown time, numerous are the costs of repairing. However, as an indication, Mr. Martin said: Out in the Indian Ocean, we've got the bird out there. I may be on a ship in the middle of the Indian Ocean and I have problems—distress. If I push the distress button on the satellite, I'm in contact with Kuwait.

I tell Kuwait I'm in the middle of the ocean—the Indian Ocean, give them the coordinants and they don't know what to do about it. They have no idea what to do about it.

Who would they respond to? So you call Sri Lanka or call somebody else like that. On our initial distress system on 500 kilohertz, we immediately send it out and I know, within that area, we have dozens and dozens of tankers leaving the Persian Gulf coming south, so we have instant communication.

Mr. FOGLIETTA. Yes, but, in your system, if I remember correctly, you said that that is only valid for a certain radius of 200 miles.

Mr. CALHOUN. Yes, sir.

Mr. FOGLIETTA. And suppose, as in the case of the *Poet*, there is not another vessel within that radius?

Mr. CALHOUN. Nine out of ten times, it's unusual at sea——

Mr. FOGLIETTA. We're concerned about the 10th time.

Mr. CALHOUN. OK, the 10th time. It's unusual, but on many occasions I've been in the middle of the ocean and, for no particular reason, a ship will cross your bow or you'll cross it. It just happens. There are ships all over the world and, as I said, 9 out of 10 times, there is a ship nearby—20, 30, 40 miles. You always see them on radar.

That is a standard that the FCC set. At least 200 miles. I say it should be 500, 1,000. We have the power in the transmitters to get out 1,000 miles.

Mr. FOGLIETTA. Well, why don't we have 1,000 miles?

Mr. CALHOUN. It is because of the antenna system design. It does not pass the test and the FCC has set a standard of 200 miles and they don't even pass that test.

Mr. FOGLIETTA. That's just incredible.

Mr. Martin, what is the possibility—how many ships—we'll say American maritime vessels—are equipped with the proper equipment to be part of the satellite system? What percentage?

Mr. MARTIN. I assume you are referring to U.S.-flag ships. The total number of ships in the overall system is about 1,900. Those ships of U.S. registry are about 200 today.

The ones that we think could make profitable use of satellite communications would be another 200 or so in addition.

Mr. FOGLIETTA. What are the prospects that we will in the near future or distant future or if ever have a system of safety where a ship in distress can notify a central point where assistance will be dispatched—all ships throughout the world will be covered by such a program? On all ships of a certain size, though?

Mr. MARTIN. Well, sir, I think as soon as they are all equipped with satellite communications. It will be at that point. And that's clearly a goal. That's clearly the kind of thinking you'll find in the International Maritime Organization and that's clearly why we are cooperating closely with them.

Mr. FOGLIETTA. But a defect that is presented by Mr. Calhoun is that, even if all the ships are in that satellite system, the signal

goes out through an area or a central location or headquarters which cannot offer assistance.

Mr. MARTIN. I don't think Mr. Calhoun knows how the system operates. The operator on board the ship has a choice of which Earth station to route his traffic. So, if you are in the Atlantic region and Kuwait—the United Kingdom and the United States are on the air, the operator has the choice of dialing a thumbwheel or otherwise selecting which station he wishes to send his distress message to.

Mr. FOGLIETTA. Can he send his distress messages anywhere on the Earth?

Mr. MARTIN. Well, he can send it to any one of those three stations for action by the safety authorities associated with those stations.

In addition, Inmarsat has put in an additional feature to deal with our concern that a ship may send a distress message to a non-existent station or it may send a distress message to a station that's in the system but for some reason doesn't respond.

If this were to happen in the Atlantic region, the U.S. station would automatically recognize this and alert the Coast Guard—that someone is ignoring a distress message in the Atlantic Ocean region.

Mr. FOGLIETTA. You say they would then notify the Coast Guard?

Mr. MARTIN. Yes, sir.

Mr. FOGLIETTA. Is there a requirement that they must notify the Coast Guard?

Mr. MARTIN. The requirement is simply an operational procedure which we've adopted in agreement with the Coast Guard. It's not a question of mandate.

Mr. FOGLIETTA. Well, who is required to notify the Coast Guard?

Mr. MARTIN. Comsat. We require our own operating staff to do it.

Mr. FOGLIETTA. Suppose they don't? What's the penalty?

Mr. MARTIN. As far as legal penalty, I don't—

Mr. FOGLIETTA. We had 39 merchant seamen die on the *Poet* because somebody didn't notify somebody, so it's not a silly question for me to ask: What is the penalty if they don't get notified?

Mr. MARTIN. Well, I understand there is no legal penalty, as far as I know, on our staff. This is an undertaking that we do voluntarily because of our own interest in recognition of the importance of this medium for the safety of life at sea. We don't even think of people ignoring that sort of request.

Mr. FOGLIETTA. What's the general cost to have a ship equipped with the proper equipment to join the satellite system?

Mr. MARTIN. I'm not directly in that business but, in the competitive marketplace today, we're talking about \$40,000 for the equipment; \$50,000 installed.

Mr. FOGLIETTA. Do you, in your experience, see any problem in, say, making this a requirement that they have this equipment, or how do you envision getting a universal system if it's not required?

Mr. MARTIN. Well, as I said, we hope that, for those for whom this satellite communications system provides obvious benefits—whether it's an efficiency of operation or for safety of life at sea, or for whatever purposes will continue to accept the system as they are now. As I said, we are growing at the rate of 50 a month and at

what point will we reach marginal users who need some other inducement—we are not exactly sure.

And it may be that, among those 200 ships we've identified, we may have some of those marginal potential users now who do need some inducement to put this facility aboard their ship.

Mr. FOGLIETTA. So you do need some inducement?

Mr. MARTIN. There may be need for some inducement.

Mr. FOGLIETTA. All right. My last question: If there is no person to send the signal in your system, is there any automatic system?

Suppose the ship becomes distressed and there's no time or whatever the situation was again with the *Poet* and someone not being able to send a distress signal. Is there an automatic distress signal that will be sent?

Mr. MARTIN. Not today, but I certainly hope so in the future. And that's one of the reasons why we have recently conducted tests of EPIRBs that are compatible with the Inmarsat system—successful tests, I might add.

Mr. FOGLIETTA. To work them in with the system?

Mr. MARTIN. Yes, sir.

Mr. FOGLIETTA. Thank you.

Mr. JONES. Thank you two gentlemen for your appearance here this morning and, in connection with Mr. Martin, I ask unanimous consent that his complete statement be included in the record at this point.

Without objection, so ordered.

[Material referred to follows:]

STATEMENT BY EDWARD J. MARTIN, VICE PRESIDENT, INTERNATIONAL OPERATIONS,  
COMMUNICATIONS SATELLITE CORPORATION

Thank you for this opportunity to offer a status report on maritime satellite communications and to offer comments on its significant contributions to improvements in efficiencies in world shipping and maritime safety.

Today there are more than 1,890 ships and offshore facilities equipped for communications through the global system operated by the International Maritime Satellite Organization [Inmarsat] in which Comsat is a major partner. To give you an idea of the expanding nature of maritime satellite communications, there were 968 ship earth stations operating with the Marisat system at the end of 1981 and 1,607 after the first year of Inmarsat operations on February 1, 1983.

The system is used routinely by ships and offshore facilities flying the flags of 49 nations. General cargo ships, tankers, oil drilling platforms, luxury cruise ships, government vessels, container ships, yachts, fishing boats, and others are established and enthusiastic users. The services include modern telex, telephone, facsimile, medium and high-speed data, the latter up to 56 kilobits per second.

The Inmarsat system began operations on February 1, 1982, in a smooth transition from the Marisat system. As you know, the Marisat system was created by Comsat, in conjunction with three international record carriers, and has been providing commercial communications as well as communications to the U.S. Navy since 1976. With the creation of Inmarsat, the commercial capacity in the Marisat satellites was leased to Inmarsat and constituted the initial Inmarsat system in all three ocean regions. Beginning in May 1982, the leased capacity in the first Marecs satellite, provided by the European Space Agency, took over the Marisat satellite in the Atlantic Ocean region. It has approximately four times the capacity of the Marisat satellite. In January of this year, an Intelsat V satellite with a maritime communications capacity leased from Intelsat replaced the Marisat satellite in the Indian Ocean region. The Pacific Ocean region continues to be served by a Marisat satellite and will be until replaced in late 1984 or early 1985 by a second Marecs (B2) or an Intelsat V satellite.

Yesterday, another Intelsat V went into service in the Atlantic Ocean Region to meet Intelsat requirements and, at the same time, it replaced the Marisat satellite as the backup to the Marecs satellite in the Inmarsat system. Later this year, two

more Intelsat V's will be launched; one will become a backup in the Inmarsat system in the Indian Ocean Region, and the other is expected to become the operational satellite in the Pacific Ocean Region. According to present plans, the Marecs (B2) would be expected to be the primary satellite in the Pacific upon its successful deployment in late 1984 or early 1985.

At the start of commercial Marisat service in 1976, there were only two coast earth stations in operation, one in Connecticut for the Atlantic Ocean region and one in California for the Pacific Ocean region. These two stations were joined by a station in Japan in late 1978 for operation through the Indian Ocean region Marisat satellite, thus expanding the system global coverage. Today, there are coast earth stations in Norway, England, Singapore, Kuwait, a second station in Japan, and additional stations planned for operation by the end of this year in Brazil, France, the U.S.S.R. and Italy.

As for the future, Inmarsat issued yesterday a Request for Proposals to obtain necessary satellite capacity for its second generation system. The first of these satellites will be needed in the Atlantic Ocean region, and would be expected to be operational in mid-1988. To meet projected increases in traffic, each of the spacecraft is expected to have a capacity of approximately 125 voice circuits, compared with the 10-to-40 voice circuit capacity of the present generation of Inmarsat satellites.

With the advent of service via the Marecs satellite in the Atlantic Ocean region, the shipping and offshore oil industries benefitted immediately from a significant improvement in coverage. The Marecs satellite is stationed at 26° west longitude, further westward than the Marisat satellite. Thus, the entire Gulf of Mexico is now covered. The so-called coverage gap between the Atlantic and the Pacific satellites was also narrowed by this westward movement.

Use of the Inmarsat system, as well as the number of ship earth stations, has risen steadily since the start of commercial maritime satellite services just a little over seven years ago. In 1977, for example, the first full year of two-ocean service, we counted a total of about 220,000 minutes of telex and telephone traffic. This compares with 1982, the year Inmarsat began operations, when there were about 5.7 million minutes of traffic through the three-ocean global system.

The provision of ship earth station equipment is highly competitive, with ship owners and operators able to select terminals of their choice in the open marketplace. There are twelve different manufacturers offering such equipment today. The equipment, which has been type-approved by Inmarsat to work with the global system, currently is made by four companies in the United States, three in Japan and five in Europe. A list of the twelve manufacturers is included with this statement.

There are approximately 570 privately owned ships of U.S. registry. Of these, 203 are presently equipped with ship earth stations. Based on our analysis of the remaining unequipped portion of the U.S. registered fleet, we estimate that another 200 ships are good candidates to obtain ship earth station equipment. It is, of course, difficult to be precise. Reactivation of ships, shipping activity, and costs of equipment will all be factors influencing ultimate decisions to equip for satellite communications.

From the inception of maritime satellite communications, safety of life at sea has been an important element in system planning. The Inmarsat system provides a unique capability for a ship operator to send instantaneous distress messages to stations ashore. The system design provides that an operator can cut off a routine call, if necessary, to transmit distress or emergency communications to proper authorities on shore. Satellites offer a quick and fully reliable real-time communications capability, one that cannot be matched by conventional medium and high-frequency radio communications because of propagation limitations.

The interest in maritime satellite communications is growing fast. Its reliability in meeting expanding communications requirements in often hostile weather environments for both shipping and offshore industry is an accepted fact. The thirty-nine member nations of Inmarsat represent 85 percent of the world's shipping and they are committed to an expansion of the Inmarsat system to meet expanding user requirements.

Inmarsat is working closely with the International Maritime Organization as it develops plans for a future global maritime distress and safety system [FGMDSS]. A cornerstone of FGMDSS is satellite communications. Section 3(c)(1) and (2) of H.R. 3486 can be of material assistance in assuring a successful implementation of the future distress and safety system by accelerating the installation of ship earth stations.

We know that an important consideration in deciding whether to proceed with such assistance to terminal equipment installation is the continued usability of the

terminal over its lifetime. Although innovation and improvements in equipment are always occurring, and welcome, a significant element and condition in Inmarsat planning is to assure users that older equipment will continue to be able to have access to the system.

Even though we are still in the first decade of this new and improved means of communications for the maritime community, we feel we have come a long way in improving operational efficiencies, and even saving lives at sea. We believe that the broad international character of Inmarsat and the steadily increasing use of satellites by the major fleet owners of the world, as well as by the worldwide offshore oil industry, underscores the vitality of maritime satellite communications. We look forward to the day when every U.S. citizen on the high seas can enjoy its benefits.

#### QUESTIONS OF MR. JONES AND ANSWERS THERETO

1. I understand that an Intelsat V satellite is to be launched later this year, and will become the operational satellite in the Pacific Ocean Region. Why is it that the Marisat satellite, currently operational in the Pacific, could not be used as a backup until another satellite is launched for the Pacific in 1984 or 1985? Also, should the lack of a backup satellite be of concern to users?

The possibility of retaining the Marisat satellite in the Pacific Ocean Region as a backup has been provided for by Inmarsat. In its contract with Comsat General Corporation, Inmarsat has an option to extend its use of the Marisat satellite for one year beyond January 31, 1985. Based on the remarkably reliable operating history of the Marisat satellites to date, the lack of a backup satellite does not arouse serious concern.

2. Will the services provided by the "next generation" satellite system be compatible with both current ship terminals and coast earth stations? What modifications, if any, will have to be made, and what are the estimated costs for these changes?

The second generation space segment will be compatible with current ship earth stations; no modifications of existing ship equipment will be required. In addition to supporting existing types of terminals, the second generation space segment will be able to support new types of ship earth stations which can be tuned over a wider frequency band and which will operate with a lower effective transmit power.

Existing coast earth stations will need to be modified to have a wider frequency tuning range. Consideration is also being given to a possible shift in the frequencies used for the earth-to-satellite links. These modifications are estimated to cost about 0.5 million dollars per station.

3. In your testimony you state that of the 570 privately owned ships of United States registry, 203 are currently equipped with Inmarsat terminals. Can you break down this figure by vessel type; in other words, how many ro/ro's, product tankers, container ships, et cetera, are equipped with terminals?

The 570 privately owned U.S. flag ships were drawn from the Maritime Administration's listing of vessels that constitute the U.S. Merchant Marine. Of these 570 ships, there are 203 equipped with SES. Using the Maritime Administration's categorization, these are classified as follows:

#### *Number of ships*

Tankers.....	114
Containerships.....	4
Roll on/roll off.....	7
Freighters.....	11
Partial containerships.....	18
Container barges.....	14
Liquefied natural gas carriers.....	13
Integrated tug/barge-tank.....	5
Bulk carriers.....	4
Ore/bulk/oil.....	2
Chemical tanker.....	1
<b>Total.....</b>	<b>203</b>

4. You also state that out of the 570 privately owned ships of United States registry, which are not equipped with Inmarsat terminals, about 200 are good candidates for this equipment. This leaves about 167 vessels which you consider not to be good candidates for Inmarsat. Can you please explain to me how you went about determining which vessels are, or are not, good candidates?

Subtracting the 203 ships that are equipped from the U.S. Merchant Marine total of 570 leaves 367 vessels. The "U.S. Merchant Marine Data Sheet", published by the Maritime Administration on May 24, 1983, listed 460 vessels as active, with the balance listed as either temporarily laid up or laid up for longer periods. The active fleet was subdivided into foreign trade, 179; Military Sealift Command charter, 57; and domestic trade, 224. We have assumed that all active ships engaged in foreign trade (179) and all Military Sealift Command charters (57) will be equipped. This accounts for 236 vessels.

The 224 ships engaged in domestic trade are divided into 64 that operate non-contiguous coastlines and 160 that operate coastwise or on intercoastal waterways. Since non-contiguous coastlines generally imply deep water and some distance from land, we have assumed all 64 will equip. An estimate of 48 equippings of the 160 coastal traders was also made. This accounts for another 112 vessels, bringing the total to 348 of the 460 ships that are currently active.

We estimate that 55 ships will be equipped of those ships that are currently laid up. Fifteen are vessels that are listed as temporarily laid up with the other 40 coming from long term lay-ups.

With improved economic conditions, ships that are temporarily laid up will return to commercial service and about 40 ships on the longer term inactive list will be equipped because of the expansion of the Ready Reserve Fleet. Consequently, we are forecasting that 348 active and 55 inactive vessels represent a total relevant market of 403. Since 203 are already equipped, 200 remain to be equipped.

We do not generally consider ships that operate coastwise or intercoastal domestic routes to be good candidates for SES fittings. While there are ship management data programs that would provide economic incentives to some of these vessels, many would consider themselves well served by conventional VHF/HF radio. There are also a number of laid up ships that are unlikely to sail again either because of their age or because of changes in ship design and demands of trade that render them obsolete.

5. I would like you to state your position on section 3 of my bill, H.R. 3486, which in part requires that the master of a vessel report to the owner every 48 hours. Specifically, I would like to know how this requirement is likely to be complied with by ships outfitted with only conventional radio communications equipment versus ships also outfitted with Inmarsat terminals.

Vessels outfitted with conventional radio communications equipment would have to report every 48 hours using conventional HF radio equipment. It must be realized, however, that there is no guarantee that the report could be placed to the designated location at the appointed time. The transmission would be subject to the vagaries of HF radio wave propagation, which, of course, is not the case with satellite communications.

6. One of the supposed national defense features of Inmarsat communication systems is that a secure connection can be made, effectively excluding outside parties from listening in on transmissions. What types of conventional radio communication systems have this feature?

In the true sense, there is no such thing as a wholly secure radio connection which will be immune from eavesdropping. Cryptographic equipment is normally used with satellite communications and conventional HF radio to increase security. In comparison to monitoring VHF and HF radio, considerably more effort and expense must be expended to monitor satellite circuits.

7. It seems to me that we should find out exactly, the degree to which currently operating Inmarsat ship terminals actually experience loss of communications—for whatever reason. Who would represent the most accurate source for this type of information: equipment manufacturers; the FCC; Maritime Industry Associations; Inmarsat? Do you have any thoughts on this?

Information concerning the availability of communications can be derived from a combination of sources. Satellite and coast earth station availability statistics are collected and regularly reported to Signatories by the Inmarsat Directorate. Ship earth station availability statistics are more difficult to obtain and interpret due to the dispersion in data sources. Manufacturers and/or their service representatives are possible sources for frequency-of-repair information. Coast earth station operators such as Comsat maintain records of telephone and telex service complaints which comprise another possible source of data. The collection and realistic interpretation of data from such varied sources would be a formidable and costly task if meaningful worldwide results were the objective.

8. I understand that there is an indication that below deck satellite communications equipment can fail due to temperature changes. For instance, if a vessel's air

conditioning fails, this may result in disrupted communications. Would you like to comment on this?

Depending on design specifications, any place of electronic equipment could fail due to excessive temperature changes. The below-decks equipment for type-approved ship earth stations is designed to operate at ambient temperatures between 0°C to 40°C. Operating experience since 1976 has proven the design specifications to be sufficient.

9. Can you tell us what actual evidence there is at this time which indicates that Inmarsat ship terminals may be a real safety hazard due to ionizing radiation?

There is no evidence of any safety risks caused by ship terminal ionizing radiation. The transmitted signal power level of the ship earth station is low (between 20 and 30 watts into the antenna), so the probability of hazardous induced ionization effects is minimal. Furthermore, the antenna must generally be located high on the ship's structure for adequate visibility to the satellite and is, therefore, normally in a well-ventilated location.

Mr. JONES. The Chair now recognizes the gentleman from Pennsylvania, Mr. Borski, for the purpose of making a short statement and introducing our next witness.

Mr. Borski.

Mr. BORSKI. Thank you, Mr. Chairman.

Mr. Chairman, this is an important hearing and I'm grateful for the fact that we have this opportunity to focus once again on the critical issue of marine safety and the role of the Coast Guard.

The safety of our merchant seamen and the fleet is an issue of special concern to me. The SS *Poet* sailed from Philadelphia on October 24, 1980, for Egypt with a crew of 34 men.

The *Poet* vanished without a trace, leaving no clue as to her fate. We are about to hear from Mrs. Liselotte Fredette, who lives on Edgemont Street in Philadelphia, not far from my own home. Mrs. Fredette's son, Hans, was a merchant seaman aboard the *Poet* and was lost at sea. She brings to this hearing a message that deserves our attention. She will tell us about the pain of the past 33 months. She will also tell us how she has used that pain to educate herself and others to the problems with our marine safety program. Mrs. Fredette is here to testify in the hopes that another tragedy like the *Poet* can be avoided, so that others will not have to endure the suffering that she and her family have endured.

Almost 3 years have passed since the *Poet* disappeared. Since then, we have witnessed the tragic loss of the *Ocean Ranger* in 1982 and the *Marine Electric* this year with a great loss of life.

We have to ask ourselves if we have learned the lessons of the *Poet*, the *Ocean Ranger*, and the *Marine Electric*. Is our present marine safety program effective? Does the Coast Guard have the manpower it needs to do the job?

The Philadelphia Inquirer recently reported in a series of articles on our merchant fleet that the *Poet* was not unique. It was like many other ships that are still operating.

I hope that we can offer Mrs. Fredette some assurances that her son's death will have a positive effect by alerting us to the very serious problems with marine safety programs and by taking action to strengthen these programs.

Mr. Chairman, I thank you for allowing me to deliver this statement and I would like to ask Mrs. Fredette now to speak to the committee.

## STATEMENT OF LISELOTTE FREDETTE

Mrs. FREDETTE. Mr. Chairman and members of the committee, good afternoon.

I am Liselotte Zukier Fredette. My son, Hans Peter, age 32, served as a merchant seaman aboard the SS *Poet* and was killed when that ship was lost at sea on October 25, 1980.

I have been asked to testify before you concerning marine safety and I am here both as a concerned citizen and on behalf of all American merchant seamen and their families.

For myself and the other families who lost sons, husbands, fathers, and brothers on the SS *Poet*, the past 33 months have been a time of deep sorrow, frustration, unrealized hope, despair, and great disappointment. However, myself and other *Poet* mothers and wives motivated by these feelings have utilized this time to learn as much as possible about the problems which we believe ultimately caused our losses.

We have attended Coast Guard, National Transportation Safety Board, and congressional hearings and have done extensive investigation, reading, and research on this subject.

Regretfully, I am here today to inform you that the American merchant fleet as administered and regulated by the U.S. Coast Guard is in a horrendous state of complete and total disrepair.

One horrible marine disaster after another has resulted in little being learned about the underlying causes and problems and apparently nothing being done to change or correct them. I can only hope and pray that some action by this committee and Congress may bring about meaningful and significant reforms.

The American merchant fleet is at present comprised of the oldest and most poorly maintained and unsafe ships in the world. For a country that is clearly the world leader in every area, there is no excuse for this. I believe without question that we have reached this disastrous life-threatening point as a result of purely economic factors which have been encouraged, expanded, and reinforced by poor Government policy and inadequate legislation concerning the maritime industry. These economic forces have become so overwhelming and controlling to the exclusion of all concerns for human life that they have created a situation which may best be described as the American seamen's holocaust.

Economic forces have further rendered the U.S. Coast Guard totally ineffective in dealing with matters involving proper maintenance and safety aboard American flagged vessels.

Cargo preference legislation which permits and encourages American shipowners to make substantial profits by transporting such cargoes as grain under Government subsidy aboard ancient and substandard vessels is directly responsible for many of the recent American maritime disasters including the SS *Poet*.

As long as un reputable shipowners such as Henry Bonnabel, owner of the *Poet*, can continue to bid on Government and military contracts while profitably operating unmaintained and dangerous vessels of more than 30 years of age, American men will continue to be lost and injured at their hands. These policies must be changed and minimum safety standards be imposed.



Further, legislation must be passed to permit more competitive ship building so that old and decrepit vessels can be scrapped, as many should have been years ago, and the fleet replenished.

Laws requiring American shipowners to build new vessels only in this country are not only self-destructive but run counter to U.S. interest. They have not generated new jobs since the economic response of the shipowners has merely been to cease building new ships. Our American peacetime economic prosperity and wartime national security requires that we have a safe, effective, and fully operational merchant fleet and measures must be taken to rebuild it.

The loss of the SS *Poet* can serve to clearly illustrate all of these concepts and principles that I have described.

The ship was transporting grain under Government subsidy contracts from the United States to the Midwest. The vessel was a 38-year-old converted World War II troop carrier that had been purchased by her owner for the sole purpose of profiting from the contract. She was structurally and mechanically unsafe as a result of the many years of decay, neglect, and lack of maintenance.

On October 25, 1980, she was lost at sea without a trace. After some investigation which resulted in no concrete conclusions, the owner received millions of dollars in insurance moneys in compensation for the loss of the vessel.

The U.S. Coast Guard which bears the responsibility for inspecting such vessels not only continuously permitted this ship to operate despite several inspections which yielded obvious violations but had little to say about their operations when hearings revealed that there were major defects in this vessel which should have been repaired before she was permitted to sail.

Gentlemen, I want you to know that every day in this country the U.S. Coast Guard inspectors everywhere, for one reason or another, are overlooking safety violations and permitting unsafe American vessels to operate without proper maintenance or repairs. Something must be done to require the Coast Guard to fulfill not only their governmental responsibilities but also their moral obligations to see to it that no more American lives are lost due to inadequate inspection procedures and enforcement.

The *Poet* case also illustrates the deficiencies in another Coast Guard responsibility—that of search and rescue.

On this point, it should be noted that the owners of the *Poet* did not notify the Coast Guard for 10 days after they knew or should have known that the vessel was missing.

Nothing has been done to avoid such a situation occurring in the future. Further, despite the fact that the vessel was an active participant in the AMVER merchant vessel reporting system, the Coast Guard was not independently alerted to the loss of the ship as they should have been. Once aware of the missing status of the vessel, it took the Coast Guard 5 days before a search was commenced. Such a lag time in an emergency situation is clearly unacceptable.

Five days after the searching was actually commenced, we were notified that the search would be called off. Vice Adm. Robert Price, who has testified before this committee, quite insensitively

informed us that the cancellation was required because of inadequate resources available to commit to the search.

Only through great pressure and communication to our legislators were we able to obtain a 4-day extension of the search.

Clearly, provisions must be made to provide all necessary funds and other resources to carry out effective search and rescue efforts. These are not mere budgetary concerns but are matters of life and death.

Finally, although I am here before you only as an informed layman, bringing some of these problems to your attention, I also have some suggestions for proposed remedial legislation.

First, and perhaps most importantly for our future, legislation must be passed to economically promote the rebuilding of the American fleet including major overhaul and repairs and the building of new vessels.

Next, major changes in the cargo preference legislation must be enacted to alter the economic pressures which presently foster unsafe conditions in the entire industry.

Further, shipowners operating under Government contracts or carrying Government cargo should be required to meet minimum safety standards including a full and effective vessel reporting and monitoring system.

In addition, unquestionably the entire U.S. Coast Guard inspection system must be reviewed and reorganized. It is presently inadequate and ineffective. Also, sufficient resources and funding must be provided to the Coast Guard to meet all possible search and rescue needs. In another area in which you have had some testimony before you, the limitation of liability laws must be amended for the benefit of the seaman including at least a substantial increase in minimum liability limits for vessel disasters which are presently based on vessel tonnage assessments last established in 1935.

Finally, all possible efforts must be made to encourage the unions and private sector companies within the maritime industry to become more active, aggressive, and responsible in promoting safety within the U.S. merchant marine.

I sincerely believe that, if even these basic changes are made in our present system through new legislation, the American maritime industry will eventually be vastly improved and we will once again be the transportation leaders in the world.

I would also like to thank the chairman and the members of this committee for the rare opportunity to participate in these hearings and present my observations and suggestions.

I sincerely hope and pray that you will go forward with your task and succeed in recommending significant legislation and changes so that, in the future, American seamen, like my son [weeping] I'm sorry—

Mr. JONES. That's all right.

Mrs. FREDETTE [continuing]. Can serve our country's best interests without fear of death or injury.

Thank you.

Mr. JONES. I don't have any questions, but I want to commend the lady on her courage and appearance here this morning—and your dedication—sincere dedication to making our maritime laws more safe.

Mr. Forsythe.

Mr. FORSYTHE. I join you, Mr. Chairman. I do not have any questions.

Quite frankly, you spoke very well to some questions I might have had.

Mrs. FREDETTE. Thank you, sir.

Mr. FORSYTHE. I also commend you greatly.

Thank you.

Mr. JONES. Mr. Hughes.

Mr. HUGHES. Thank you, Mr. Chairman. I just want to echo your sentiments. I think that she spoke eloquently and we do have a large task ahead of us and I appreciate your contribution. It's very significant.

Thank you.

Mrs. FREDETTE. Thank you, sir.

Mr. JONES. Mr. Borski.

Mr. BORSKI. Thank you, Mr. Chairman.

Thank you, Mrs. Fredette, for your statement, and I do want to associate myself with the previous gentlemen's statements.

I would like to ask you one question, if I may.

Could you tell me about the problems with the owner's liability in the *Poet* disaster and do you think that the present law in terms of compensating the families is adequate?

Mrs. FREDETTE. Very, very inadequate, sir.

I will be very blunt with you as we have gotten it very blunt from the shipowners also, and the insurance. The law of the high sea states: Single merchant seamen in a disaster, if he gets lost at sea, is worth nothing. Exactly. And you only get what they offer to give you under the owner's limitation of liability law which is at present time \$60 per ton scrap.

Basically speaking, we have families who have received anywhere from—I'm talking about the single seaman—between \$48,000 to as little as \$5,000.

Mr. BORSKI. \$5,000?

Mrs. FREDETTE. Yes, sir.

I have a letter here stating from one mother in Czechoslovakia. She received \$7,000. And I absolutely refuse to sit here today, sir, and believe that my son was not even worth his high school education.

Mr. BORSKI. Mrs. Fredette, if I may, could I just ask one other question?

Did your son ever talk about the poor conditions of the ships that he sailed on?

Mrs. FREDETTE. Yes, sir. As a matter of fact, I am also aware that my son, several times, made out incident reports and has sent them to the SIU union. I don't know what ever became of them.

Mr. BORSKI. Do you know if he ever refused to go on a ship?

Mrs. FREDETTE. Yes, one time.

Mr. BORSKI. Did anything happen to him because of that?

Mrs. FREDETTE. No. Nothing happened to him because he lied.

Mr. BORSKI. What do you mean: he lied?

Mrs. FREDETTE. Well, he said—as he was off the ship on furlough—on couple hours' furlough, he said he was hurt at home, so he went back to the ship but then he called me to come and pick

him up, which I did. But, to be able to get off, he had to leave his belongings there and, at a later time, he caught up with the ship some place in Texas—I believe it was Galveston—to get his belongings back.

Mr. BORSKI. I have no further questions, Mr. Chairman. Again, I want to thank the lady for her testimony and the courage that she's shown in coming before us today.

Mrs. FREDETTE. Thank you, sir.

Mr. JONES. Mr. Foglietta.

Mr. FOGLIETTA. I would like to identify myself with the remarks of my colleagues on this committee, Mrs. Fredette, and to commend you for your compassion for the families of the other seamen who went down on the *Poet*, as well as your courage and dedication in keeping up this battle to someday achieve safety aboard these vessels.

Mrs. FREDETTE. Thank you, sir.

Mr. FOGLIETTA. You are to be commended.

Mr. JONES. I do have one question if I might ask you.

Mrs. FREDETTE. Certainly.

Mr. JONES. The sums of money which were paid the families of those who were lost on the *Poet*, were those sums the result of a judgment or were they negotiated but between the boatowner and the individuals?

Mrs. FREDETTE. I believe partly of a judgment and negotiation, yes, but there was a limit to it, and the limit was they just—you know, very—as a matter of fact, I was one of the last ones to sign and the fact it just came to this point: They are offering that much—no more. Take it or leave it.

Mr. JONES. Thank you very much and I again want to commend you on your appearance here today.

With that, the committee goes into recess until 2 p.m., without objection.

Mrs. FREDETTE. Mr. Chairman, I also would like to thank you personally for, you know, keeping in touch with me and being very responsive to my letters and to my information, and you have a very good crew in your kitchen.

Thank you.

Mr. JONES. Thank you.

[Whereupon, at 12:35 p.m., the committee stood in recess until 2 p.m.]

Mr. STUDDS. The subcommittee will resume. Chairman Jones is unable to return and has asked that I resume the hearing. The hearing is therefore resumed.

The next witnesses are Captain and Mrs. Spivey of Working Sail, Inc.

Come right ahead.

Welcome and please proceed as you will.

#### STATEMENT OF CAPTAIN AND MRS. SPIVEY, WORKING SAIL, INC.

Mrs. SPIVEY. Good afternoon, members of the subcommittee.

We are pleased and honored to be invited to testify again. We hope it is a sign of progress for the encouragement of Working Sail.

I do have to say at this point that I feel like I've lost a friend with the absence of the model of the tall ship that was in the back or the room last time we were here.

We are happy to report the *Sharon Virginia* is alive and well and making a living. In spite of the governmental regulations imposed, the *Sharon Virginia* has managed to find a niche as an uninspected coastwise trader. The boat is performing beyond our expectations and we find her perfect for her job.

In the first year of operation, we are showing a profit. We directly supply 4 persons with a modest salary and approximately 20 others with partial salaries. In the past year, we have called on about 15 ports on the east coast, making a living, proclaiming our political plight and promoting commercial sail.

It was during one such visit that we encountered the overregulation of our maritime system. While docked in Jacksonville, Fla., with a load of Smithfield hams, our documentation needed renewal. We went to the Coast Guard office in Jacksonville and submitted our papers for renewal. It was then we were handed the now-famous, parenthetical ham memo.

Needless to say, a \$15,000 fine plus forfeiture of our vessel took us aback somewhat. A series of intense negotiations took place during the next 2 days. The officer in charge, Kein, was convinced we were carrying cargo-for-hire, even though we had a bill of sale for the porkers.

He insisted that, if we made profit from the hams, then we were carrying cargo-for-hire. What's more, we were engaged in commercial intercourse even if we sold one T-shirt.

Neither of these we were licensed for and we would risk forfeiture of our vessel. Officer Kein also alerted Coast Guard offices along the east coast of our illegal cargo operations.

Finally, he told us he was making an example out of us so that others would be frightened into obeying the Coast Guard regulations. It became apparent that hamming it up was not at all as innocent as it sounds.

With your help, we managed to get out of Jacksonville in one piece. The hams were not so lucky. They had to ride the big dog to Miami.

It was then that you wrote to the Coast Guard Admiral Gracey for clarification of the Jacksonville ruling. As you know, the admiral replied with a letter which basically said that our interpretation of the laws was correct. The admiral also stated that commercial intercourse had no special significance with respect to marine inspection laws. Once again, the absurdity of over regulation within our system has been demonstrated.

Even officer Kein admitted this when he said he was making an example out of us because it was the only way the Coast Guard could enforce the multitude of laws they were responsible for.

During our travels, we have met scores of your constituents who would like to operate sailing coastwise traders in the United States, and believe there is a serious economic need, but all have been stopped by the number of regulations enforced of all U.S.-flag ships. Everyone is paying higher shipping costs because our merchant marine fleet has been regulated out of business.

We appreciate the recommendation issued by the subcommittee after our last visit in 1981, but what has come of it? The recommendation was, " \* \* \* that the Coast Guard take steps to eliminate regulatory impediments to the growth of a U.S.-flag sail-assisted cargo fleet."

Not only has this not happened, but the Coast Guard has taken steps to implement more regulations on sail-assist fishing boats. The only sail-assist industry developing in the United States at present.

At the time of our first subcommittee testimony 2 years ago, many sail-assist vessels of all sizes were being built around the world. Today, the Japanese are building four more sail-assist ships. The Cousteau Society, assisted by the French Government, is building a sail-assist ship to replace their research vessel, *Calypso*.

The *Sharon Virginia* has five sister ships, all carrying cargo in other parts of the world. The Germans, Poles, and Soviets are all building sail-assist ships. The only vessel retrofitted for sail-assist by an American business is flying a Greek flag.

It is a deplorable statement of our so-called free-enterprise system we so ardently defend, when Communist countries are years ahead in the technological development of an industry we are hindering.

I, along with others in the sail-assist field, sit on the board of directors of a group called SAILA—Sail Assist International Liaison Associates. It is a clearinghouse for news of development of vessels using wind energy. As you can see from the most current news letter, this is a science of wind power being used not only for traditional sails, but for turbines, fans, cylinders, and fiberglass wings on all types of commercial vessels.

It is a science being rapidly developed and used in other countries. It is the general consensus of our international membership that the growth of this industry cannot develop in the United States until legislative steps be taken to encourage it.

And, at this time, I would like to read a letter that was submitted by SAILA this morning to the subcommittee:

DEAR MR. CHAIRMAN: At a recent conference on sail-assisted commercial vessels, members of Sail Assist International Liaison Associates described impediments to the development and use of modern sail-assisted technology and called for assistance in finding remedies from the U.S. Congress and the administration.

On behalf of SAILA's members, I offered to establish a task force to identify the problems related to the development and operation of sail-assisted vessels and to work with your committee in finding appropriate solutions to those problems.

SAILA was established in 1981 to serve as a clearinghouse for information on the modern uses of sails on working vessels. Our aim is to facilitate the sharing of knowledge and experience in this rapidly growing new field.

Our worldwide membership includes representation in all aspects of the industry, including design, construction and operation.

We look forward to working with you and your committee on this important issue. Sincerely, Capt. Lane Briggs, President.

Captain Briggs is owner and master of a sailing tugboat out of Norfolk, Va.

I'd like to bring forth a couple of other examples at this point. One is an article—this was an example of the press that wind energy gets. It's from April 1983 issue of *In Business*. The name of the article is: "Bright Prospects for Commercial Sail" and I'll just

read a few sentences that point up the importance of commercial sail:

The redesign of sail for large commercial vessels will be big business. It holds out the possibility of knitting together regional economies where lines were blurred and lost in the last century that the building of railroads, then highways. The movement toward sail has been gathering momentum for the last decade. Ten thousand boats between 10 and 20,000 tons working the inner-island trade in Indonesia and 8,000 registered small sailing tenders in India. The Japanese made engineering advances and built a small oil tanker powered in part by computer trend sales. There are now four more Japanese sail-assisted ships under construction. An oil rig was sailed 1,000 miles from the gulf to its position off Nova Scotia. It is estimated that, if half the world's cargo fleet was equipped with sails, savings from reduced fuel consumption would amount to \$23 billion annually.

And then I would like to read you this short letter. It's an example of many letters that we get for support for working sail.

DEAR MR. AND MRS. SPIVEY: Thank you for your kind letter concerning my election to the 98th Congress and my appointment to the House Merchant Marine and Fisheries Committee. I am finding that my committee assignments enable me to keep abreast of many issues which are of concern to Virginia.

With regard to your cargo schooner, I would certainly like to assist you in any way possible to remove any inappropriate legal impediments to the use of working sail vessels in U.S. waters. I will certainly look forward to your testimony before the Coast Guard Navigation Subcommittee, although I am not a member of that subcommittee and I hope that you will keep me advised of your activities. Once again, thank you for your letter and I will look forward to hearing from you in the near future.

Best wishes; sincerely, Herbert Bateman.

He is on the Committee for Merchant Marine and Fisheries and also the Committee for Science and Technology. He is a representative from our home district.

Time is flying past us as we take a back seat in the rapid growth of this practical science. The time for action is now. We must make the existence of this industry possible in the United States or we will forever be behind.

Up until World War II, our merchant marine fleet was No. 1 in the world.

It has been the backbone of this country throughout our history. Let's return our fleet's power to it and encourage it and support it. I dare say that this country would never have been discovered if the ships of Columbus had to be Coast Guard-certified.

And, once more, we would have no Government fleet if Navy and Coast Guard vessels had to comply to their own regulations.

When the categories for ships were established for certification, subchapter S was left empty in case a new type of vessel entered our future. That vessel is now in existence. We suggest that subchapter S be used for wind-assisted vessels, containing only basic safety regulations and let the efficiency of wind energy be reflected in the shipping costs and the savings be passed on to the consumer. This will be the first step in establishing a new attitude not only for our maritime industry, but also for our economy.

Thank you for letting me testify before the subcommittee again and I hope that we are going to make progress.

Mr. STUDDS. Thank you very much.

There are a lot of differences between the present and what Columbus had to face. One shudders to think what would happen, for example, if Ferdinand and Elizabella had had an OMB, if the ques-

tion had arisen with respect to the safety of Columbus' vessel. [Laughter.]

Mrs. SPIVEY. Well, Columbus' ships did not have inboard motors so they wouldn't have to meet any of the requirement anyway.

Mr. STUDDS. Regarding the letter which you read into the record which the subcommittee has just received from Captain Briggs, Sail Assist International Liaison Associates: we are going to pursue his suggestion there.

Did you say he was the captain of a sailing tug?

Mrs. SPIVEY. Yes, sir. She's been in operation for several years.

Mr. STUDDS. What happens if his clients want to go to windward?

Mrs. SPIVEY. Well, of course, he doesn't use the sails on the way back.

Mr. STUDDS. Oh, I see. I was worried about that.

Mrs. SPIVEY. But he does save 30 to 40 percent fuel cost using his sail.

Mr. STUDDS. I see. We will pursue that and, in that connection, the questions that I have for you are questions, obviously, that are to be pursued in that regard and some of them you may be able to answer off the top of your head and some of them you may want to think about.

Two years ago, as you well know, the subcommittee released an oversight report on the Coast Guard which included the following recommendation, and I quote:

The subcommittee recommends that the Coast Guard take steps to eliminate regulatory impediments for the growth of the U.S. flag sail-assisted cargo fleet. This will require either that: (A) New realistic regulations be issued dealing specifically with such vessels, or (B) Consultations be held with classification societies and boat-builders to develop interim methods of resolving issues likely to arise during vessel design, construction and inspection activities.

Specifically, what, if any, regulatory impediments presently exist which serve to hinder in some unnecessary, inappropriate way the growth of the U.S.-flag sail-assist cargo fleet?

Captain SPIVEY. I'm not sure that it's our position to be specific with this matter. We aren't naval architects. We're not designers. We are sailors. And we can see the main thrust of the problem is the fact that we are being inspected as a motorboat and we're not a motorboat.

And, as far as they're concerned, the sails and the masts are nothing but additional windage. They are not an auxiliary power source. They are, you know—we're a motorboat as far as they're concerned.

Mr. STUDDS. I understand.

Has the Coast Guard, in your experience, proven cooperative in working with the industry to make sure that ships will be safe and that both industry and the Coast Guard understand what is to be expected of the other with respect to vessel inspection and regulation?

Captain SPIVEY. They are—cooperative, shall we say? But not to the point where they are willing to accept the fact that this is a new breed of boat. They are still trying to fit us under a motorboat classification. And I keep saying, you know: Come down and look at the boat. It's not a motorboat. It doesn't have a motorboat hull. It's not designed to conform with motorboat regulations.



Mr. STUDDS. Have you asked them what they think the *Eagle* is?

Mrs. SPIVEY. The *Eagle* doesn't have to be certified.

Mr. STUDDS. Of course not.

Mrs. SPIVEY. And she wouldn't pass inspection.

Mr. STUDDS. Do you want to repeat that? [Laughter.]

Mrs. SPIVEY. Do you want me to?

Mr. STUDDS. The *Eagle* would not pass inspection?

Mrs. SPIVEY. I doubt it seriously.

Mr. STUDDS. Why would that be?

Mrs. SPIVEY. I doubt it seriously—if she'd pass the stability test.

Captain SPIVEY. She'd have to be inspected as a motorboat.

Mr. STUDDS. I can't believe you've been able to resist getting that out to the Coast Guard.

Captain SPIVEY. Well, we've had discussions about such things. None of their boats would pass. None of the Navy boats would pass.

Mr. STUDDS. The Coast Guard is using some of Columbus' boats, as you know. [Laughter.]

Last August 12, the Coast Guard issued a revised and reportedly clarifying set of vessel subdivision and stability regulations covering virtually all types of vessels. Those regulations define "auxiliary sailing vessel" as a "vessel capable of being propelled both by mechanical means and by sails." That definition applies, doesn't it, to your vessel, the *Sharon Virginia*?

Captain SPIVEY. That's correct, but this is one step.

Mr. STUDDS. I guess—let me just say: The following question is obvious. Are the regulations contained in that August rulemaking therefore applicable to the *Sharon Virginia*? Are they appropriate or not?

Captain SPIVEY. Again, not being a naval architect and not being a designer, I can't really comment on that. That's something we should ask the task force from *SAILA*.

That is something that this is organization where there are designers; where there are naval architects that could realistically answer these questions.

Basically, what we are saying is that—and the Coast Guard is trying to cooperate—it's obvious. But we need a new category. We need a category that's going to encourage this business instead of define it as a motorboat.

Mrs. SPIVEY. I'd like to bring one point out at this time. There is a category for commercial sail vessels without auxiliary power but, basically, it states in the regulations—

Mr. STUDDS. Are there any such things?

Captain SPIVEY. Certainly.

Mr. STUDDS. There are?

Captain SPIVEY. Yes.

Mr. STUDDS. With no auxiliary power?

Captain SPIVEY. Excuse me?

Mr. STUDDS. With no auxiliary power?

Mrs. SPIVEY. No inboard auxiliary power.

Captain SPIVEY. No inboard.

Mr. STUDDS. Inboard auxiliary.

Captain SPIVEY. They have yawl boats.

Mr. STUDDS. In your statement, you imply that Government regulation is the only thing standing in the way of a vast U.S.-flag sail-assist cargo fleet operating up and down the coasts.

Is it not also true that a combination of shipbuilding costs, a still-depressed economy and a surplus of already operating cargo vessels provide even greater obstacles to new ships seeking to enter the maritime trade?

Captain SPIVEY. I wouldn't say there's a surplus of U.S.-flag operating vessels. And, certainly, the economy would tend to slow down any development if this industry.

But we—quite literally, what we said is true. We run into people all the time that want to do this.

Mrs. SPIVEY. They are willing to invest their own money in building the ship but don't see how they could ever operate under current regulations.

Mr. STUDDS. Why do you say there's a serious economic need for sail-assist cargo ships?

Captain SPIVEY. Because it's obvious that, in particular ports and in particular places up and down the—what our range is—what our experience is is on the east coast—that there are spots for vessels—for sail-assist vessels. There are places where we can provide a better service in carrying particular cargoes from particular ports.

We've seen the need.

Mrs. SPIVEY. It would release us from some of the need for foreign oil and it would also help clean up our environment not to have that oil pollutant.

Mr. STUDDS. On page 3 of your statement, you say that the Coast Guard has taken steps to implement more regulations on sail-assist fishing boats.

What are the regulations and do you think they are unnecessary or inappropriate?

Captain SPIVEY. The regulations—now, this, again, is not really our field but, as we understand it, the regulations on fishing boats are fairly slack, thus allowing the industry to develop, which is why it has developed in fishing and not in cargo.

At the last conference in Tarpon Springs, we understand—we did not attend, but we understand that the Coast Guard implied that they were debating placing very stringent stability requirements on sailing fish boats.

Mr. STUDDS. Finally, on page 4 of your statement, you suggest that the sail-assist industry cannot develop in the United States until legislative steps are taken to encourage it.

What do you have in mind and are actions being taken in other countries that you think we should be taking a look at in that regard?

Captain SPIVEY. If we could get a realistic subchapter—just to say taking the reserve subchapter, subchapter S, and creating a subchapter which would allow the industry to develop without putting undue impediments in front of it. Certainly, basic safety regulations. But allow the thing to develop.

We don't—there are enough people out here that are willing to experiment—with it and willing to develop it that we don't need Federal grants. We don't want Federal money. We want to be al-

lowed to develop the thing and let's develop the regulations as the industry develops, in a realistic manner.

Mr. STUDDS. I don't want to put words in the Coast Guard's mouth, but I think that, at the heart of the slowness here may well be the real strictures on the availability of resources—personnel and funds for that agency. They are not exactly, as we can imagine, going around looking for new work, with which to develop their increasingly strained existing resources. We don't have that from them in so many words, but that's what I hear between the lines of their slowness in this.

I think all would agree that, if the kinds of regulations which you seek were to be forthcoming, they would involve a considerable expenditure of time and, inevitably, of money. What are the chances that the industry or potential industry affected by this and which stands to benefit from it would be willing in some way to share those costs?

Captain SPIVEY. Oh, I think we've expressed that desire in the letter from Captain Briggs. We are certainly willing to cooperate. We want to help. We want to help set up realistic regulations.

We don't want to entangle the Coast Guard any more. We understand that setting up a new subchapter would make for some regulations for them to enforce but we certainly want to keep the regulations to a bare minimum.

Mr. STUDDS. You notice how I managed to ask that fairly lengthy question without using the phrase "user fees."

How would you feel if I were to think of a suitable paraphrase, which I can't at the moment, for user fees to have such a thing applied to your own inspection?

Captain SPIVEY. Personally, I don't object to it.

Mr. STUDDS. Thank you. I'll just make a personal observation. It's not fair to ask, I don't think, on the record—but, yes, I will.

I find myself emotionally drawn to the concept for which you are struggling and have been for some time and, for that very reason, I worry a little bit about it because I would be much happier to wake up in the morning and see sailing ships filling our harbors again, compared to what is there now. That may not be an altogether calculating, rational conclusion based on hardheaded economics. It may be a good deal of emotion.

In all fairness, do you think that emotion, in that broad sense—nostalgia, almost—plays a role of any substance in this or are you suggesting—

Captain SPIVEY. I don't think so.

Mr. STUDDS [continuing]. That there really is hardheaded economics.

Captain SPIVEY. I don't think so. The people that are involved in it—and us, too; we are in business and we wouldn't be doing it if it wasn't profitable.

Mrs. SPIVEY. This is the only way we make a living—is with our ship.

And one of the things that I'd like to point out: It's not just the Coast Guard regulations. If we were carrying cargo and we were a certified vessel, we would have our rate set, which means that our shipping—the savings we would have from using sail power could not be passed on to the consumer.

And that's one thing we would like to see developed into the area—is a little more free enterprise in the merchant marine fleet.

Mr. STUDDS. Thank God that's a subject for another subcommittee.

Mrs. SPIVEY. But money is an important subject.

Mr. STUDDS. I understand. It is a subcommittee of this committee, however, so I want to thank you again and I hope that, when you appear 2 years hence as I'm sure you will, that there won't be exactly the same testimony and exactly the same questions with respect to exactly the same inaction on the part of you-know-who.

I thank you very much.

Captain SPIVEY. We feel like the Congress has expressed a desire to encourage the industry.

Mr. STUDDS. There's no question about it.

Captain SPIVEY. And this is a way, with virtually no money spent, that you can encourage the industry—is by letting us develop. Let us pay for it.

Mr. STUDDS. Well, notwithstanding the fact that you portray it as commonsense, it may still move around here.

I thank you very much for your testimony.

Our next, and final, witnesses are a panel, consisting of Ms. Lucy Sloan of the National Federation of Fishermen; Mr. Richard Hiscock, independent marine safety consultant; and Mrs. Kathryn Nordstrom, Pacific Seafood Processors' Association.

Gentleman and ladies.

You may proceed in the order in which you appear here or, if you have spent the day discussing a change, you're on your own.

Ms. NORDSTROM. Thank you.

I'll have Lucy start. [Laughter.]

Mr. STUDDS. Mr. Hiscock, do you have any objection to that?

Mr. HISCOCK. Not at all.

Mr. STUDDS. You're on.

#### STATEMENT OF LUCY SLOAN, EXECUTIVE DIRECTOR, NATIONAL FEDERATION OF FISHERMEN

Ms. SLOAN. Thank you, Mr. Chairman.

First, I'd like to begin by reading part of the statement which one of my member organizations—the Atlantic Offshore Fisherman's Association—sent to the committee, and request it be included as part of this record.

It's prepared by Dick Allen, who is the adviser to Atlantic Offshore and he says, in part:

Various attempts have been made through the years to impose licensing and inspection requirements on commercial fishing vessels but these have been successfully resisted by the industry. At the present time, the industry is still fearful that the additional government regulations will be implemented in a heavy-handed and impractical manner which will be overly burdensome on the industry in relation to the benefits that will be achieved.

Throughout the fishing industry from naval from naval architects to boat-builders to vessels owners and operators, there is a high regard for the operational personnel of the Coast Guard and a willingness to work with these people on improved safety standards and programs. There is just as high a level of apprehension about becoming involved in a formal safety program, knowing that government lawyers would play a major role in designing the final product.

The industry's feeling is that, whatever reasonable standards might be developed through cooperation of the industry and the operational branches of the Coast

Guard would be hopelessly screwed up by the lawyers. Our message to the Subcommittee, therefore, is that, unless you can keep the Lawyers out of it, please don't do anything.

I think that probably as well as anything, Mr. Chairman, sums up the attitude of a great number of my members on this subject.

Mr. STUDDS. You can't see it, but that sentence is what is now inscribed behind the curtain. [Laughter.]

Ms. SLOAN. An improvement over what was inscribed behind the curtain.

Mr. STUDDS. Without any doubt.

Ms. SLOAN. That, I think, probably as accurately as anything, reflects the very real concerns my people have.

As you know, Mr. Chairman, my people have worked for years on various kinds of cooperative and voluntary safety programs with varying degrees of success but the industry has been concerned about it.

We have wanted very much to work with the Coast Guard and with the Congress on these and we have appreciated the attention that this subcommittee has given those kinds of problems.

And, particularly, we have appreciated the fact that you haven't rushed to judgment in legislation. I was concerned when I read Mr. Hiscock's proposals because I surmised from them that he had not perhaps discussed them at any length with the fishing industry and I gather that this may be the case.

I think, certainly, to preface a series of proposals by asking the Congress to enact legislation is entirely counter to all of what we have brought to you before this time, and I think that the concern that Dick Allen expresses is very much the concern that I've heard from both my east coast and west coast members in the last couple of weeks when I've held meetings with them.

There are specific points that we are concerned about and, in my testimony, I gave you examples or some of the things that our members are doing for safety-awareness programs within the industry.

We, too, as others are concerned about the uneven reliability of data, but I think the reason that it concerns us is because we have a problem with data which well-intentioned bureaucrats and academics take and, although it is incomplete, they extrapolate from that data base to come up with a number of ideas and programs which really bear no relationship to the working industry. That concerns us.

One of the classic examples is an article in 1978, as I recall, by a chap named Richard Storch, whose most recent data was the fleet fishing off Alaska up to 1974. Well, in those days, that was a boom fishery and anybody who could make a bathtub float was going up there, so there was obviously a considerably higher incident of difficulties than there is now with modern, well equipped vessels.

We have a great deal of problems, therefore, with the data bases and we have it further reinforced by the fact that just as is the case in management data, as you know, our people are extremely reluctant to provide certain kinds of management information for fear it will be used against them, and the same fear is—obtains on this question of data bases on accidents.

There also, I think, is a different understanding of what constitutes an accident—among fishermen, who are actually out there fishing and other people who describe any sort of misadventure as an accident and, therefore, statistically significant and therefore, if possible, to be legislated against.

That is one thing which really troubles us. Another thing which has given us considerable cause for concern has been the allegation—and we understand the practice by some insurance companies—that, in anticipation of hard times economically—if stocks are depressed or if fishing time is limited for one reason or another, we understand that insurers will look at raising rates in anticipation of difficulties because there is the perception and perhaps, although given what I've said about the data bases, I would question it—perhaps the concern based on the information that they have that, as times get tough, there will be additional pushing on the parts of the fleet and, therefore, a higher possibility that we may have accidents.

This is a catch-22 proposition because, if the insurance premiums go up and the deductibles go up, my people begin to look at fishing harder and being, in some cases, less inclined—particularly if they have to run for thousands of miles to get to their home port shipyards—less inclined to go through the sorts of routine checkings that they do.

They'll skip it once. And that begins to be a problem and that's something that I think we'd like to work with if the problem with insurance is as much of a problem as I'm understanding from my members the increased premiums might be.

Another financial question about which we are concerned is the possibility for investment tax credits for sophisticated safety equipment. As you know, one of our continuing problems from the time that survival suits began to be readily available is that our people will be penalized because they may have a full complement of survival suits for everybody aboard the vessel but they won't have the right number of life jackets equipped in the appropriate manner and they will, therefore, be written up for it, despite the fact that the survival suits will be equipped in a much better fashion than the life jackets will be.

This is one of the regulations we'd like to see opened up and we'd also like to see the possibility of investment tax credits for safety equipment—survival suits, approved life drafts, Halon systems, watch alarms, bilge alarms, and Lazaret alarms—those kinds of things might be a possibility for ITC's.

So I think that's something into which we'd like to look with you. Specifically, the areas about which we are concerned at the moment are the possibilities of increasing in any way the air coverage, both up in Maine and in Cold Bay.

Mr. STUDDS. Down in Maine.

Ms. SLOAN. Excuse me, sir. Down in Maine. They'd never forgive me for it. It reflects my New England—my southern New England bias.

Down in Maine. We need additional coverage. I was in Portland for the blessing of the fleet and, after the blessing ceremony itself had finished, the Coast Guard helicopter was called from the cape.

They came up and gave what was a very impressive useful demonstration of their capability.

But one—the only discouraging note was the fact that it took well over an hour to get there and, although in some circumstances, an hour's time is not going to be critical; in others, as you know, it could be extraordinarily critical.

And, if it were possible, even part of the year, to get aircraft out of the Brunswick Naval Air Station, that would be helpful.

The same thing obtains in Cold Bay. As you know, we really have no Coast Guard service west of Kodiak and we have an increasingly large number of vessels fishing west of Kodiak and, for that reason, we have met with the Coast Guard and asked if there were any way we could work with them to try to increase the Coast Guard coverage—the air coverage west of Kodiak because of the problems that may be available for search and rescue at least.

We have, in Bering Sea and Gulf of Alaska, a fleet that, even in the fishing industry I think is remarkable in the amount of cooperation if there is a vessel missing or in trouble.

But the helicopter coverage or the aircraft coverage generally from Cold Bay would be a tremendous advantage to our people were they in difficulty.

The final thing that I'd like to raise is that, as you know, the First Coast Guard District put out something called, "This Fisherman's Digest," and I gather that they are the only district who have done so.

I have discussed it with some of my west coast members and they've expressed a real interest in the possibility of having it put out by other Coast Guard districts.

I have circulated some of the additional copies I've got and I've probably gotten half a dozen at this point, and I think the one I cherish and the one I'll keep for my own files is the one that came to the fishing vessel *Lucy Sloan*.

But half a dozen of the others, I've circulated among my members and, if it were possible for this to be circulated generally among the fishing fleet, I think that the first district is to be commended and I'd like to see the work that they've done copied or in other ways adapted for the other districts where my fishermen are involved.

Thank you.

Mr. STUDDS. Thank you very much.

It goes without saying, of course, that the first district is to be commended.

Ms. SLOAN. Indeed.

Mr. STUDDS. That was the second bell, so we have to recess for approximately 7½ minutes. We will be right back.

[Subcommittee stood in recess briefly.]

Mr. STUDDS. The subcommittee will resume, graced by the presence of the ever-distinguished minority ranking member.

Have you decided who's going next?

Ms. NORDSTROM. Yes. I will but, first, Lucy Sloan would like to add one more thing.

Mr. STUDDS. I should have known.

Ms. SLOAN. If I may, Mr. Chairman.

Mr. STUDDS. OK, Lucy.

Ms. SLOAN. I'd like to ask that the Fisherman's Digest, an Atlantic Offshore statement be submitted for the record.

Mr. STUDDS. Without objection.

Ms. SLOAN. Thank you.

[Material referred to follows:]

STATEMENT OF RICHARD B. ALLEN, ADVISER, ATLANTIC OFFSHORE FISHERMEN'S ASSOCIATION

The Atlantic Offshore Fishermen's Association represents a broad range of off-shore fishing vessel owners and crews in New England and the Mid-Atlantic regions. One of the major concerns of our membership is the safety of their vessels and personnel. We appreciate very much, therefore, the interest shown by the Subcommittee in holding this series of hearings.

As you all know, fishing vessels of the size which comprise most of the Atlantic Coast fleet are uninspected vessels, subject only to basic safety equipment requirements and the requirements for lights, whistles, and bells contained in the International Regulations for the Prevention of collisions at Sea.

Various attempts have been made through the years to impose licensing and inspection requirements on commercial fishing vessels, but these have been successfully resisted by the industry. At the present time, the industry is still fearful that additional government regulations will be implemented in a heavy handed and impractical manner which will be overly burdensome on the industry in relation to the benefits that will be achieved.

Throughout the fishing industry, from naval architects to boat builders to vessel owners and operators, there is high regard for the operational personnel of the Coast Guard, and a willingness to work with these people on improved safety standards and programs. There is just as high a level of apprehension about becoming involved in a formal safety program, knowing that government lawyers would play a major role in designing the final product. The industry's feeling is that whatever reasonable standards might be developed through the cooperation of the industry and the operational branches of the Coast Guard would be hopelessly screwed up by the lawyers.

Our message to the subcommittee, therefore, is that unless you can keep the lawyers out of it, please don't do anything.

We would like to emphasize that a lack of legal requirements does not mean that the fishing industry is not moving ahead in the field of safety. Survival suits, inflatable liferafts, and EPIRBs are now considered standard equipment for most fishing vessels operating in the offshore areas of the Northwest Atlantic. Unbreakable Lexan windowns are now common, and bilge alarms and pumping systems are continuously being improved. Radar and watch alarm systems are being installed with increasing frequency, as are fixed fire extinguishing systems. Industry trade journals frequently highlight various safety practices and equipment. In this regard, we would like to commend safety consultant Richard Hiscock for his excellent work in publishing "Safety Notes for Commercial Fishermen," which is widely distributed in the industry.

Among our membership, safety is a frequent topic of waterfront conversation, each new marine casualty being subjected to considerable scrutiny. Discussion includes both equipment and personnel concerns. Most responsible operators are quick to adopt equipment and practices which have demonstrated value. It is not uncommon to hear them voice their concern over less responsible operators who have the potential of not only doing harm to themselves and others, but also raising insurance rates for the fleet as a whole.

The question posed by these hearings, that of the adequacy of the current statutory and regulatory framework for marine safety, puts the fishermen between the proverbial rock and the hard place. Should he risk the dangers posed by less responsible operators and continue to subsidize them through high insurance rates, or should he support more rigid legal safety requirements which may turn into a monster more troublesome than his non-safety-conscious colleague.

Our position at this time is that the Coast Guard should emphasize voluntary safety programs and to the extent possible should work with the insurance industry in order to gain recognition for voluntary safety measures. The insurance industry is in a position to make safety profitable for the conscientious fisherman, rather than the present situation in which it is costly to him.



Recognizing the limitations on voluntary programs we also stand ready to work with the subcommittee and with the Coast Guard to develop and implement practical safety measures.

The first step in any effort to improve fishing vessel safety should be aimed at determining exactly where the present problems lie. The Coast Guard system for investigating, reporting, and analysing marine casualties needs to be improved. This will not only provide direction for future Coast Guard efforts, but will also be useful to the industry.

Thank you again for your interest in the safety of the fishing fleet.

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STATEMENT OF LUCY SLOAN, EXECUTIVE DIRECTOR OF THE NATIONAL FEDERATION OF FISHERMEN

Good morning, Mr. Chairman, Members. I'm Lucy Sloan, Executive Director of the National Federation of Fishermen. NFF is the only national organization of commercial fishermen. Our members fish from Mexico to Alaska and from the Gulf of Maine to the Gulf of Mexico. Among the species they harvest are demersal and pelagic finfish, crab, salmon, albacore tuna, shrimp, swordfish, lobster, eels, clams, and oysters.

We appreciate this opportunity, once again, to testify before this Subcommittee and to discuss with you examples of the growing awareness in the fishing industry of the importance of improving safety practices in our industry. We would also like to discuss possibilities for improving Coast Guard operations related to the fishing industry. Finally, we would like to look briefly at what other safety support activities or programs might be possible.

I've met recently with both Eastern and Western Region members of NFF. The discussions in both meetings were quite similar. Several fishermen's organizations have in place or are beginning different kinds of safety awareness programs.

Among these are various organization-sponsored or -generated hull and P and I insurance programs (Massachusetts Lobstermen's Association and Maine Lobstermen's Association; Massachusetts Inshore Draggermen's Association; Point Judith Fishermen's Cooperative Association). These programs vary in their members' direct involvement in developing the program under which they are now insured—the work MLA has put into its program could serve as a model in enterprise for similar programs in any fishery—but each of them does have as a point of departure increased safety for the member fleet. MIDA, for example, sought reductions in premiums for its members who had survival suits and automatic halon systems.

These are not the only programs, of course. Other fishermen have insurance pools, a principle admission standard of which is the combined safety records of the captain and the vessel.

Other organizations have safety committees. North Pacific Fishing Vessel Owners Association is one example. This recently-formed committee plans several activities; among these: informing the fleet of better safety practices and promoting these practices; evaluating government safety regulations to see how these might be improved upon; working with other marine industries to enhance maritime safety; and informing the government of fleet actions on safety self-policing.

This last point is especially important for us in today's hearing, for it is one of the primary purposes of any fishermen's organization in safety programs: our people want to, and in many cases, are, working with the Coast Guard to improve fishing vessel safety—but they wish to do it on a cooperative, informal basis. We are extraordinarily concerned that when well-intentioned bureaucrats and academics get involved in telling us how to run our businesses, too many of the recommendations appear arbitrary, even non-productive. Any measures proposed should have been developed with the involvement of fishermen themselves if they are to have any real functional success.

The Newport (OR) Fishermen's Wives have provided one of the very most striking examples of the industry working with others to increase fishing safety. Under the leadership of Ruth Braithwaite and Sheila Shafer, this group worked with the Coast Guard, the local medical community, private pilots, fishing equipment manufacturers, and divers to put into place a search and rescue capability second to none. In roughly 12 months they were able to have donated over \$45,000 in equipment to improve SAR in their area. Two LORAN Cs came from Texas Instruments, and salvage gear came from Gourcock and Northwest Trawls, for example. A local surgeon helped the Wives put together a medical box, and he is available to ensure its on-going usefulness. The Wives also worked with this doctor, Richard Beamer, and the Coast Guard further to train emergency medical technicians: the Wives raised the

money to pay for the program. As a result of their work there are also now five volunteer pilots with planes equipped for SAR and two divers equipped for underwater salvage. Finally, they put in place the first hot oxygen equipment (to treat hypothermia) on the West Coast. I understand that now all West Coast aircraft stations have this important equipment. Mrs. Braithwaite has emphasized repeatedly that none of this would have been possible without the strong and sustained support from the community of Newport. Happily, the Newport example has sparked interest in other ports, and both Mrs. Braithwaite and Mrs. Shafer are continuing to work to inform others on ways to improve fleet safety.

As regards the Coast Guard role in SAR, I find that on re-reading my testimony before this SCtte two years ago, I would say much of what I said then. I would ask, therefore, that my prepared remarks then be made part of today's record. At that hearing I also addressed problems with boardings. Complaints and concerns from fishermen remain the same—with a point which we did not state then, but which was a basis for the concerns we expressed: fishing vessel safety checks which fishermen (because of the detail—or the lack thereof—of the check the boarding party conducts) perceive as Drug Enforcement Administration boardings are potentially serious problems. I understand that often the attitudes and conduct of the boarding parties could be significantly improved upon.

This leads us to your question as to whether the Coast Guard has enough expertise, money, and personnel to do the job it has been asked to do. No. Clearly not. When one looks at the complex and interlocked responsibilities assigned to the Coast Guard, one is reminded of the dancing bear: it was not remarkable that the bear danced badly; what was remarkable was that he danced at all. At these hearings you hear from us our concerns to improve Coast Guard performance. Unfortunately, we do not often enough acknowledge our steady heartfelt gratitude to the Coast Guard for all that we have come to take for granted in their commitments to helping our fleets and the US maritime industry as a whole. We do thank them. And we look forward to working with you and with them to do what may be necessary to ensure reasonable, functional ways of improving fishing vessel safety.

Mr. STUDDS. Ms. Nordstrom.

# STATEMENT OF KATHRYN NORDSTROM, WASHINGTON REPRESENTATIVE OF THE PACIFIC SEAFOOD PROCESSORS' ASSOCIATION

Ms. NORDSTROM. Thank you, Mr. Chairman.

In the interest of time, I'll try to do this in 7½ minutes, too.

I am Kathryn Nordstrom, with the Pacific Seafood Processors' Association. We are composed of the majority of seafood processing companies in Alaska, Washington, and Oregon.

I have a written statement that I would submit for the record.

Mr. STUDDS. We appreciate that and it will appear in its entirety.

Ms. NORDSTROM. Thank you.

[Material referred to follows:]

## STATEMENT OF M. KATHRYN NORDSTROM, WASHINGTON REPRESENTATIVE, PACIFIC SEAFOOD PROCESSORS ASSOCIATION

Mr. Chairman, I am M. Kathryn Nordstrom, Washington representative of the Pacific Seafood Processors Association, a trade association representing the majority of companies involved in the seafood industry in the Pacific Northwest and Alaska. I am testifying to provide you with information and background on our industry and its vessel operation practices. We are an established industry in this area of the country; a major employer in the coastal communities with an economic impact in excess of a billion dollars. At the same time, we are in a developmental stage as U.S. seafood operations embark on a massive expansion into less traditional resources and new product technologies. Our vessels and the current mode of operations are critical to the continued success and future growth of the fishing industry in our region. Our objective is to be able to continue those operations in a cost-effective, safe manner.

## INDUSTRY BACKGROUND

The salmon industry in the Pacific Northwest and Alaska has been dependent upon cannery tender vessels for over 70 years. These vessels are used for transporting fish from harvesting vessels to canneries and for carrying fishing industry personnel and supplies to remote locations. Salmon runs last only several weeks with high volumes of fish hitting a series of specific locations through Alaska as the fish return for spawning. As the runs peak, fishing vessels are fully occupied in catching and unloading to the tenders, which in turn, bring the loads to processing plants. In many cases, especially along the Aleutian chain and in Bristol Bay, these locations are very remote, thus necessitating the flexible delivery capabilities of these vessels. Without this vital link in the system, we would not be able to utilize this tremendous salmon resource. For several decades, tender operations have sustained shore-side domestic processing and remain an important component, along with the increasing floating processing capability.

Over the years, the tenders began to perform similar services for facilities involved in crab fisheries as well. Also, since the passage of the Fishery Conservation and Management Act in 1976, the American industry has made increasing efforts to develop the bottomfish resources in the Bering Sea and the Gulf of Alaska. Although the operations in these fisheries differ from salmon operations, some logistical requirements are similar. The support of tenders to bring product ashore and to resupply the harvesting and processing vessels could be a critical factor in the successful development of the bottomfish sector of the industry.

The salmon and crab industries also utilize a number of vessels as floating processors, usually for the freezing of product. In the effort to develop the bottomfish industry, several companies are now using processing vessels for either primary or complete processing of fish. The major advantage of such operations is that they can work on the fishing ground in close cooperation with the harvesting vessels and process fish while they are very fresh. Some of these vessels are equipped to work in any or all of the fisheries in the area (salmon, crab, and bottomfish) to take advantage of the relative profitability, changing market demand, and seasonality of the fisheries. The processing vessel are an important factor in the development of the United States industry and may be the key to its overall growth.

Our companies currently operate approximately 300 to 400 tender vessels and several processing vessels. The number used, particularly as tenders, varies according to needs and availability of fishing vessels for charter. PSBA member companies account for approximately 85 percent of the tender and processing vessels used in the Pacific Northwest and Alaska.

## HISTORY OF LEGISLATION

For several decades, the Coast Guard treated tender and processing vessels as fishing vessels legally exempt from inspection and other requirements. In 1962, the Coast Guard reversed its interpretation and announced that tender vessels would be required to be inspected, and to comply with loadline requirements.

In 1968, following extensive hearings in both the House and the Senate, Congress passed legislation to exempt tender vessels from requirements for inspection and loadlines for a period of 5 years. The Administration and the Congress supported the exemption generally, but the Coast Guard recommended that it be limited to five years so that the situation could be further evaluated. The exemption was renewed for several five-year periods, and is now valid until January 1, 1983, and new vessels will be subject to that requirement.

In the early 1970's, the Coast Guard stated its intention to apply the requirements of the inspection statutes to the fish processing vessels operating in the Pacific Northwest and Alaska. Congress responded in 1974 with an amendment to exempt those vessels. That exemption has now been renewed twice and is also valid until January 1, 1988.

No specific legislative exemptions have been enacted regarding manning requirements for tender and processing vessels. Fishing vessels, of course, are exempt from most manning requirements. Consequently, processing companies generally assumed that their vessels were treated as fishing vessels and, therefore, also exempt. However, the Coast Guard has recently indicated informally that this is not the case. Also recent litigation has resulted in a decision by the Ninth Circuit Court of Appeals which raises difficult questions as to whether the manning laws apply to tender vessels.

## SPECIFIC OBJECTIVES

The fishing industry in the Pacific Northwest and Alaska is at a critical stage of its growth and development. Recent experience with salmon and crab, the historical core of the industry, has been difficult. Some traditional markets have been soft; the available crab resource has been very limited; and the strong dollar has hurt our exports. Efforts to expand into processing and marketing of bottomfish continue, although direct competition from foreign fishing fleets operating in our waters is strong. In sum, the challenges for our industry are great, but we continue to be optimistic and expect to succeed.

Mr. Chairman, we have begun discussions with Congressional staff and other interested parties, including the labor community, on potential legislative amendments to maintain inspection exemptions and to clarify exemptions in manning requirements. These would be directed to tender and processing vessels so as to conform their legal requirements with those of fishing vessels. This is especially necessary in that combination processing/fishing vessels are the wave of the future and are increasingly used in the industry. At the moment, definitional distinctions between fishing and processing vessels cause disparate treatment under the inspection and manning laws, thus preventing rational and efficient operations. For example, a combination vessel fishing and processing its own catch is treated as a fishing vessel and remains exempt; but when processing another's catch, it is treated as a processor, losing some of the exemptions. The same differing applications of law may occur when a fishing vessel operates as a tender. Industry operational changes necessitate a uniformity of legal requirements so that tender and processing vessels are categorized the same as fishing vessels. Identical arguments prevail for both inspection and manning laws. Otherwise, the economic consequences are sufficiently severe as to threaten the viability of continued operations, much less growth endeavors.

Beyond the general Coast Guard inspection requirements (for which vessels in the fisheries are not originally constructed), manning provisions are in excess of our needs and are not readily feasible. The three-watch, 65 percent able-bodied-seamen, and 75 percent U.S. citizen crew requirements are no more necessary for support vessels than they are for harvesting vessels. Once again, the multiple-use, or combination vessel, faces the same frustration here as it does with the inspection laws. Furthermore, given the short trips, proximity of other vessels and lack of availability of such personnel in our remote operating locations, it is an unnecessary and unreasonable burden to maintain such requisites.

In terms of safety consideration, our record on loss of life and serious injury is quite good—especially for what is understood to be a high-risk occupation.

Our vessel operations are unique. Tender vessels generally make short voyages with several days at anchor while loading fish from harvesting vessels, and another day at the dock while unloading the fish to a processing plant at the other end of the voyage. Processing vessels operate either tied to a dock or within a small area of the open ocean while they are working with several harvesting vessels. Tenders and processors make long voyages only once or twice a year as they go to or from the fishing grounds. It must be understood that we are not talking about a merchant fleet, but rather, about a unique network of vessels traveling in shorter voyages and in limited areas of the ocean.

This fleet is gradually modernizing as older vessels are retired and the newer fishing vessels are chartered from the fishing fleet as tenders. Processing vessels currently entering the fishery are normally converted vessels (some foreign-built) that are relatively new or reconditioned so that vessel integrity is assured.

In summary, we ask that there be a recognition of the peculiar characteristics of the seafood industry—its basic needs for efficient and cost-beneficial operations—and its determination to expand into a fully developed and major industry. The services to certain communities, and the potential for major trade enhancement and consumer benefits definitely deserve consideration. We do hope to achieve the desired growth and to do so in a safe, responsible manner.

Your questions are welcome, and we look forward to continued cooperative work in this area.

Ms. NORDSTROM. Basically, I am here on behalf of individual industry members who would have come if it were not for the fact that we are in the middle of our salmon season, so they send their apologies.

Specifically, we have vessels that act as fishing vessels, tender vessels, and some are processing vessels, that are of concern to us. They are vital to our operations in the Pacific Northwest and Alaskan waters. Tenders are the vessels by which supplies and personnel are taken into the remote areas of Alaska as we gear up each season.

They are also the ones that take supplies and fuel out to the fishing grounds for the use of the harvesting vessels. The harvesters prefer to stay on the fishing grounds during the peak periods of the runs. This is a more practical and efficient way to operate.

Furthermore, the tenders are loaded by the harvesting vessels with fish to transport to shoreside processing facilities.

The processing vessels do exactly what they sound like. They are an adjunct to our shoreside activities. They can tie up at the dock; they can go out to the fishing grounds, anchor, and process there; they can move to areas that need additional processing capability as needed. They primarily do freezing on these processing vessels.

We are at a crossroads now as we enter the development of ground fish resources. The kind of vessels I'm describing will become even more important as we grow into this resource utilization capability.

A phenomenon that has come out of all of this has been what we call the multiple-use or combination vessel, with which Lucy and many others are quite familiar. These are sort of jewels of the fleet. They are able to fish. They are able to process, and they can be used as tenders, which we do.

As a matter of fact, our association operates approximately 300 to 400 tenders, as needed, according to the resource we are working on at the time; 20 to 300 of those are fishing vessels that are chartered by our members as tenders.

Additionally, the emergence of at-sea processing necessary for many of these new resources—the bottom fish resources—is extremely important to the future development and growth of this industry.

The reason I tell you this is that there is a very interesting, tangled web of vessel requirements that overlay all of these different uses and activities. If you are a fishing vessel, period, you are exempt from Coast Guard safety requirements.

If you are one of these combination vessels and you want to tender or you want to process a colleague's catch, then you lose part of those exemptions, because then you come under a whole different set of requirements.

This isn't a practical situation whatsoever for these kinds of vessels. The reason for this is that, going way, way back in the early 1900's, when tenders first started, they were considered fishing vessels and they, too, were exempt from the Coast Guard safety inspection requirements.

In the sixties, the Coast Guard decided to change that and to bring them under those kinds of requirements even though they had never originally been built to meet any kinds of specifications like that.

The Coast Guard studied the situation. They met with the industry. They observed the operations and realized that a rather unique situation existed up there. Out of economic necessity, they couldn't

just automatically make those requirements become effective, so, in discussions with Congress about it, Congress realized what was happening, and enacted an exemption. The Coast Guard asked that the exemption be for 5 years so that they could complete studies and investigations of the safety aspects of the entire fishing industry.

That was in 1968. Since then, Congress has broadened and extended those exemptions—three times, I believe it is. We currently are under an exemption which will run out January 1, 1988.

In the exemption-broadening and extension process that Congress did, they included the processing vessels under the exemptions as well.

The other set of regulations for vessels have to do with certain provisions of manning requirements. Again, we face the same anomaly here. The fishing vessels are exempt from most manning requirements—not all. There are some that they have to meet.

But, the tenders and the processing vessels have a different set of regulations—or appear to. We always assumed that, in the manning area, we were treated the same as fishing vessels, but recent activities have raised questions about that. We are here now to try to clarify that we are exempt.

It makes practical, realistic sense to have all these vessels under one uniform set of regulations. In addition to that, the multiple-use vessel cannot be expected to fish under one set of regulations and, the minute that that vessel decides to do another activity, different requirements would have the structure of the vessel change, or the crew makeup change, which is what would happen.

Also, we are having to make investment decisions for the future. For vessels that are going to be built, and currently being contracted, you have to know what the design is going to be. You can't have the rules changed on you in the middle of the ball game and, 2 years into construction of the vessel, have it no longer able to operate under that construction.

We have a good safety record with the tenders. We have an improving record with the processing vessels. We have a good record with the fishing fleet. And, we are not a merchant fleet and we can't be compared to them. The economic impact of complying with these inspection regulations and all of the manning regulations, would strike a severe blow to our operations.

Therefore, what we would like to do is continue some discussions we've begun with congressional staff and other interested and affected parties, to develop a set of amendments that we could all agree to. Then, hopefully, get these enacted as soon as possible.

We look forward to accomplishing that, and we thank you for this time, and we'll answer any questions you may have.

Mr. STUDDS. Thank you very much. Well, before we have questions for the panel, we'll go to Mr. Hiscock.

I notice, Richard, that the little agenda here neglects to point out your prime qualification for speaking to this question, namely, that you are from Cape Cod.

Please go ahead.

**STATEMENT OF RICHARD C. HISCOCK, INDEPENDENT MARINE  
SAFETY CONSULTANT**

Mr. Hiscock. Thank you, Mr. Chairman, for the opportunity to speak on the subject that I have worked on now for the past 5 years. I hope what I have to offer will help answer some questions and provide some direction on what, if anything, Congress or the Coast Guard should, can or will do to improve the safety on board U.S. commercial fishing vessels.

My name is Richard Hiscock. I am a former commercial fisherman. I live and work in Chatham, Mass., as an independent marine safety consultant.

As Ms. Sloan alluded to, I am here representing myself. I am also here representing the interests of the safety of fishermen. I don't pretend to represent the industry. I am representing the interest of safety in the industry.

My observations are based on 5 to 7 years of intensive research into the safety record, the regulations are that apply to the vessels, and what, if anything, Congress could do, the Coast Guard can do to improve this situation.

It's my opinion that one of the reasons that little has been done to improve safety on U.S. fishing vessels is, in a large measure, due to the inability to perceive a problem.

There is a pervasive and archaic notion that: As long as only the fisherman is hurt or killed in an accident, it can remain his own business, accomplished at his own risk.

I submit that may have been a noble thought in the days of sailing fishing vessels when nobody went to look for them but, today, that's a very hard position to defend.

The Coast Guard spends enormous numbers of hours assisting fishing vessels. They are required to go and look for fishing vessels. It would seem to me that the fishing vessels and the fishermen should be given a fighting chance to survive until they can be rescued.

And, while it is often pointed out that recreational vessels account for over 70 percent of the Coast Guard's SAR, and fishing vessels only 10 percent, it actually takes about three times as long to accomplish a SAR mission for a fishing vessel as it does for a recreational boat, so it is obviously more expensive to deal with these problems.

So it would seem that the safety and survival and rescue of fishermen is not really entirely his own business and it's not really entirely accomplished at his own risk.

I should also point out that, since August 1971, eight Coast Guard airmen have lost their lives while trying to assist fishing vessels.

The second problem that we deal with is a problem that has been alluded to previously and that is the problem of casualty data.

We don't really have a good handle on the numbers of casualties that occur each year. We don't even know what the numbers of vessels are, both documented and State numbered.

But we do know that, during the decade between 1970 and 1980, on average, 102 fishermen a year lost their lives on documented

vessels; 60 percent of those lives were lost as a result of vessel casualties.

But, unlike the *Poet* and the *Ocean Ranger*, and the *Marine Electric*, those fishermen died in threes, fours, and fives, unspectacularly. And it wasn't until we had two bad disasters in the Bering Sea and 14 fishermen lost their lives that a fishing vessel casualty actually made the national evening news.

There have been many instances in New England when we have lost five fishermen over one weekend. These casualties never made the national evening news. At the same time, there was a coal mine disaster in West Virginia and all three networks gave us the gruesome details. Unfortunately, fishermen don't die in sufficient numbers and dramatic cases to get the attention of a great many people.

But I would submit that, notwithstanding the rate at which fishermen die—and we don't know what that rate is because we don't have the data to back it up but, notwithstanding whatever the rate is, that there should be a comprehensive fishing vessel safety program that reduces the number of fishing vessel casualties, increases the availability and the maintenance of survival and rescue equipment.

Such a program would significantly reduce the number of lives lost, the number of fishing vessels SAR cases and increase the effectiveness of the remaining necessary SAR.

Now, to get on to answering the specific questions that were posed by the subcommittee—I would almost use the same answers that were given this morning: No, no, no, and no to those specific questions about statutes, regulations, enforcement, training, et cetera.

The statutes applicable to uninspected fishing vessels are inadequate to address any of the issues that I've alluded to. Virtually all fishing vessels are exempt from marine safety laws pertaining to maintenance and repair standards, design standards, manning standards, operating standards, and equipment standards, except as required by the Motor Boat Act of 1940 and the navigation rules.

A few notes on the Motor Boat Act of 1940. That act was adopted to address pleasure motorboat safety. It was adopted to improve an act that was adopted in 1910. It was not adopted to address commercial vessel safety and, further, it has a very serious limitation. That is that the commandant can only write regulations, or propose the adoption of regulations, for only those things specifically mentioned in the act, which number four—lifejackets, fire extinguishers, backfire flame arrestors, and ventilation.

This despite the fact that many times district officers, in writing reports on fishing vessel casualties and National Transportation Safety Board and many other people have said, "Why can't we write regulations to require such things as exposure suits, approved liferaft, visual distress signals and EPIRB's just as a minimum?" You can't do it under the present statute and that is the problem.

Notwithstanding the fact that the regulations are inadequate, I would submit that there is nothing in the statutes that prevents the Coast Guard from doing a better job of enforcing the existing requirements.



Fishing vessels are rarely examined for minimum compliance. They are often examined by personnel who have little training in the applicable regulations. There's no regular pierside examination of these vessels. When an examination is carried out, it's usually carried out as part of a post-SAR boarding or as part of a law enforcement boarding.

In many cases, though, even these examinations are incomplete and inconsistent which is a very important point, I think, because what is needed is some consistency between what people in one part of the country do and what people in another part of the country do, or even within a district or within a group.

Primarily, this is because the officers who are doing the examination have been trained in the examination of a recreation boat and not an uninspected fishing vessel. And, while the requirements for fishing vessels may be limited and less comprehensive than those for recreational boats, there are some significant differences in the safety requirements for each.

I won't get into the details of those, but it is ironic to note that even the form that is used during the boarding—the so-called 4100 form does not reflect the differences between recreational boats and uninspected commercial vessels. And yet it is routinely used for these examinations.

I would like to propose some recommendations for both the Coast Guard and for Congress and the ones I propose for the Coast Guard I hope the Congress will help to carry out.

I would like to see the Coast Guard establish within their Office of Merchant Marine Safety a Division of Uninspected Vessels.

There is currently no source—there is no contact point for uninspected vessels within the Coast Guard. I believe that that Uninspected Vessels Division should establish a comprehensive fishing vessel safety program to include education—an educational program for fishing vessel operations that would cover the minimum Federal requirements, modern marine safety and engineering practices, and survival and rescue equipment.

In addition there should be thorough training of selected marine safety officers and operational personnel in the proper examination of fishing vessels. That the Coast Guard revise the 4100 form so that it conforms with the existing regulations. That the Coast Guard commence a thorough dockside examination of fishing vessels for at least the minimum Federal requirements and, at the same time, point out safety hazards and make recommendations for improvements. That the Coast Guard improve the collection and dissemination of fishing vessel casualty data. This should include the establishment of uniform minimum casualty reporting criteria for both State-numbered and documented vessels. At present, we have two sets of casualty-reporting criteria—one for documented and one for State-numbered vessels. And they are different. Even if we had the data, it would be like comparing apples and oranges.

Request that the Search and Rescue Division include the official number of the vessels involved in a SAR case so that we can compare and integrate SAR data and marine casualty data.

That they make every effort to determine the actual number of commercial fishing vessels, both documented and State numbered, so that we can establish some rates that are realistic.

This program should initiate research, development, and investigation and coordinate the projects that are already being carried by other agencies, like Sea Grant. That they establish the additional billets at the district level to carry out such a fishing vessel program.

That they also consider as part of this reorganization putting what is now called the Boating Safety Division into the Uninspected Vessel Division. Recreational boats are, after all, uninspected vessels and a great deal of the expertise that was so successfully used to reduce casualties in recreational boats could easily be used on fishing vessels, or other uninspected vessels. At present, these two Divisions are or would be in separate offices and there needs to be more integration and communication.

The second recommendation is that the committee request the Coast Guard to do a complete review and update of a very good study they did called A Cost-Benefit Analysis of Alternative Safety Programs for U.S. Commercial Fishing Vessels which was originally requested by the full committee in 1967. It was published in 1971 and I believe this is the report which Admiral Lusk alluded to in his testimony here 2 weeks ago. I can find no evidence that that report was ever delivered to the full committee. I hope that the study would be revised and brought up to date and the committee would have the benefit of the information that the Coast Guard can put together.

And, third, that Congress consider a couple of statutory changes. As soon as H.R. 2247 and S. 46 are passed—which I understand it is about to happen or has happened—that Congress consider amending chapter 41, which is "Uninspected Vessels," to include some flexible language similar to that in chapter 43 on "Recreational Vessels" so that the Commandant can propose the adoption of regulations that will require the carriage of more modern life-saving and firefighting equipment.

I would also consider, contrary to what other people have said here today—that, rather than continuing the exemptions for fishing vessels that all the exemptions for fishing vessels be eliminated. Fishing vessels have been historically exempt from altogether, in my opinion, too much of the marine safety legislation that has been adopted in the past. I think it is a step backward to continue these exemptions.

I think, Congress should consider in the future the adoption of a comprehensive marine safety program similar to the one that was proposed in the 1971 study that the Coast Guard did, in which they outlined very clearly a comprehensive program that took into account existing vessels, new vessels, equipment requirements, and the like.

Finally, the Coast Guard should be encouraged to request—and hopefully Congress will authorize and appropriate the necessary funds to carry out the above recommendations, keeping in mind, when considering such requests, that it is far more cost-effective to prevent marine accidents than it is to respond to emergencies at sea.

Thank you very much, Mr. Chairman. I will be pleased to answer any questions.

Mr. STUDDS. Thank you all very much.

Let's see if we can get some discussion going in the panel.

Lucy, I would be interested in your comments on some of the statements made by Mr. Hiscock, and vice versa.

For example—for you, Lucy. Do you agree that there is legitimate public interest in improving fishing vessel safety and that the notion that only fishermen are affected by the safety problem is, to quote Mr. Hiscock, archaic?

Ms. SLOAN. I think that's an oversimplification, Mr. Chairman. We are concerned that safety not become the tail that wags the dog that's fishing.

We are as concerned about it as any. I think probably Mr. Hiscock referred to the vessels in Bering Sea that were lost this winter. I probably more than anybody in this room am aware of that. Those were my boats and some of the people on them were people I knew.

And yet I think, when one looks at fishing vessel accidents, in many cases, as you have in my testimony, my 1981 statement on these kinds of problems, we run into difficulties when we have fisheries that are in trouble and fishermen start pushing.

We run into difficulties when a fisherman is asked to define an emergency or nonemergency. I think, because fishing vessels operate in ways that are different from merchant marine and other vessels, that some of the exemptions make good sense because they are operating in different areas; they are operating under different ground rules, and I think that the safety programs that we've been able to institute have been the result of concern on the part of the fishermen.

I am very concerned especially with the decreased amount of Coast Guard funds and therefore personnel and equipment available. But superimposed regulations that were unenforceable would do what regulations or laws in that case do generally and lead to an overall disregard of the situation.

While they've been having the opportunity under which we have made progress and we have improved our operations—working with you and the Coast Guard on a voluntary basis—

Mr. STUDDS. I understand what you're saying. You reject the adjective "archaic"●

Ms. SLOAN. Yes, I do.

Mr. STUDDS. Would you accept "medieval?"

Ms. SLOAN. Excuse me, sir?

Mr. STUDDS. Never mind. [Laughter.]

Ms. SLOAN. I would say it's nongermane.

Mr. STUDDS. OK. Now you're speaking the language.

Do you agree—and I'm going to quote Mr. Hiscock again—that there should be a thorough dock-side examination of fishing vessels for all Federal requirements using fines to their fullest advantage as an incentive to maintain compliance?

Ms. SLOAN. Obviously not.

I think——

Mr. STUDDS. You won't get anywhere with simple, straightforward answers around here. Let's just let it stand there, unless—do you want to elaborate on that?

Ms. SLOAN. Only that I think that that's the case of the tail wagging the dog and I certainly would be interested to know where, with the limited resources, the Coast Guard is going to do that.

Mr. STUDDS. That's right. Canine references in a marine environment are disorienting.

Do you agree that our committee should ask the Coast Guard to update its 1971 study on alternative safety programs of fishing vessels as Mr. Hiscock suggested?

Ms. SLOAN. I think, first, I would like to review that study and, second, I'd like to know who is proposed to update it and to what purpose.

I think it might be more useful to work, for instance with various of the marine extension people and the fishing industry who are actually involved on a day-to-day basis than to have the study updated by people who, by and large, do not go to sea.

Mr. STUDDS. Do you agree that statutory changes should be made in order to subject fishing vessels to at least some of the inspection requirements of other vessels?

Ms. SLOAN. I think I'd have to look at what the proposed statutory changes were but, generically, no.

Mr. STUDDS. A divergence of views is emerging here.

Ms. SLOAN. It is. I think you could have predicted that, Mr. Chairman.

Mr. STUDDS. The Seafood Council of New Bedford has recommended that fishing vessels be required to be equipped with an EPIRB. Do you agree with this recommendation?

Ms. SLOAN. "Required?" I'm not sure. We have heartily recommended it, along with survival suits and the new improved sophisticated liferafts. The question of required—I think we risk going behind because it's unenforceable, given the sparsity of Coast Guard personnel, and I think that there is a growing awareness and I think you are finding them on more vessels now than ever before. I think they are happening more and more often as we hear things like Tommy Bailey's rescue.

I think you are finding that people are becoming increasingly aware of the importance of sophisticated survival equipment in all forms.

Mr. STUDDS. The answer to the question, I gather, is no. Is that correct? You don't think it should be required?

Ms. SLOAN. I don't think they should be required. I think they are coming on anyway and I don't think it's an enforceable regulation and I don't believe in regulations that aren't enforceable. And neither does Executive Order 12291, I might add.

Mr. STUDDS. To the best of my recollection in the 10½ years that I have represented my constituency, we have lost three commercial fishing vessels, with all hands, and the search was unsuccessful in all three instances. A total of 22 lives were lost in those three incidents. There was no way of knowing where in the world those vessels were when they went down.

Presumably, a functioning EPIRB would at least have pinpointed the location. Whether or not it would result in the saving of lives, no one could predict.

Ms. SLOAN. Well, I think, Mr. Chairman, that depends on whether the air coverage were available because, as I understand it from discussing it with my fishermen, the EPIRB signal is not retrievable on equipment which Coast Guard vessels routinely carry. So that, unless there were air coverage—Coast Guard air coverage available, or commercial air coverage alerted in the area.

Mr. STUDDS. Clearly, that assumes Coast Guard air coverage.

Let me quickly ask a question or two, Mr. Hiscock and I'll turn it over to Mr. Forsythe and we'll see if we can't get a free-for-all going here briefly.

Mr. Hiscock, my staff wants me to tell you that your statement could be used as a model of how testimony should be presented. This has nothing to do with its substance, for the moment. I want to make that abundantly clear lest the fight begin prematurely. [Laughter.]

But, substance aside, your statement could be used as a model of how testimony should be presented to a congressional committee. It is clear, of an appropriate length, and contains specific recommendations. I also understand it was delivered to the subcommittee on time, which, even if you confine yourself to the past 10 years, puts you ahead of the Coast Guard in that department as well. The staff did not know that you were from Chatham, Mass., but I assume that had something to do with the characterization of your testimony.

I have some questions of you very briefly and then I am going to turn it over to Mr. Forsythe.

You stated on page 3 that the cost of establishing a comprehensive fishing vessel safety program would be offset by a substantial reduction in Coast Guard operating expenditures.

Do you have any idea how much the program you recommend would cost, and do you have any idea how much it might save in search and rescue expenses for the Coast Guard?

Mr. Hiscock. I wish I did. That is the kind of data that I would like the Coast Guard to start looking for. I think we need to generate a marriage between the Office of Marine Safety and the Office of Operations in which search and rescue resides because marine safety is, to a large extent preventative SAR and what they really need to do, or what really needs to be done is to figure out just what it costs annually to do a fishing vessel SAR and how much, if you were to reduce that by 10 percent, let's say—how much that really would be. And I don't think a 10-percent reduction would be impossible to accomplish, even in a year's time.

Mr. STUDDS. Let me ask you one more.

Mr. Hiscock. So I don't have a specific answer to your question because the data is not available yet.

Mr. STUDDS. You recommend that the Coast Guard and Congress consider applying inspection requirements to fishing vessels.

Are there any items which ought, most particularly in your judgment, to be the subject of inspection?

Mr. Hiscock. That's a difficult question to answer quickly because you can start with design of the vessel and construction of

the vessel and you can go right on up through watertight integrity, watertight bulkheading, pumping systems, et cetera.

I think we have to look at establishing some minimum standards for the construction of vessels that will allow them to survive the environment in which they work, to survive operator error, and give the vessel a chance to survive and the fisherman a chance to survive also. It's a two-pronged approach. We can adopt—or we could adopt regulations which would require better survival equipment but the ultimate form of safety is to make the vessel capable of survival.

So these are the kinds of things that you would look at—the kinds of things that were looked at in marine safety programs for other vessels some 40-odd years ago, such as watertight integrity, bulkheading, and stability particularly.

Mr. SRUDDS. Mr. Forsythe.

And then I may have some after you.

Mr. FORSYTHE. Thank you.

Kathy, are the members of the crew of a fish-processing vessel at work on filleting and on fish-processing lines hired as a part of the crew which is responsible for the safe navigation of the vessel?

Ms. NORDSTROM. That crew is not responsible at all for the navigation of the vessel.

Mr. FORSYTHE. They are not hired as—

Ms. NORDSTROM. They are not hired for that. They are hired strictly to work on the processing lines just as if they were in a land-based facility.

Mr. FORSYTHE. To you again. What would the economic impact be on your industry if such an exemption were allowed to expire.

Ms. NORDSTROM. We'd be in a world of hurt. [Laughter.]

First of all, the tenders that are tender-only vessels, some of the older ones, would not be able to meet any of those standards. They'd have to be retired because it would not be economic to refit them to meet the standards.

The fishing vessels—as I mentioned, we are currently using between 200 and 300, as tenders—would not be available to us because they are exempt. It just would be an economic disaster for us. I don't know how we could continue to operate as we operate right now.

Mr. FORSYTHE. I guess that's almost a given. It couldn't be, as you do it now.

Ms. NORDSTROM. That's right.

Mr. FORSYTHE. But there's really no way.

Ms. NORDSTROM. I don't know how we could accommodate that change—the existing vessels couldn't be used.

You know, part of the problem is that we are not sure what kind of specifications there would be.

The Coast Guard, in some of the discussions we have had preliminary to this hearing, freely admitted that they are not sure what would be a proper set of specifications and requirements for fishing vessels because this has never been developed. I think they understand that to make the requirements the same as they are for merchant vessels, or cargo vessels, would not necessarily be appropriate. So we don't know what those are.

People are building boats right now. And, we've got a huge, American-built factory ship coming into the fleet this fall, I believe.

Ms. SLOAN. January.

Ms. NORDSTROM. In January.

Mr. FORSYTHE. This exemption process: You have been exempted now for what? For some 8 to 10—

Ms. NORDSTROM. Since 1968 in periods of 5 years each.

Mr. FORSYTHE. So, in one sense of the word, really, there was this kind of thing hanging over you.

Ms. NORDSTROM. Right.

Mr. FORSYTHE. And it would have been interesting what work could have been done just researching what the possibilities were.

Maybe that's the way we ought to begin looking—really ought to be looking along those lines.

Lucy.

Ms. SLOAN. Mr. Chairman—excuse me, Mr. Forsythe. On that point alone, particularly since the Coast Guard is unaware of what kinds of changes might be required, as you know, many of my king crab vessels are moving into bottom and midwater trawling. The conversion package for that—and it's a package. It's something that they know about and they know where to get the equipment and it's just a case of getting it and putting it on the vessel—is running close to three-quarters of a million dollars. I hate to think on vessels that cost—in some cases, as little as \$1 million to build—and these are the vessels that are being used in many cases for tenders—and they are now paying three-quarters of a million just for a conversion package to allow them to become combination vessels, I shudder to think what kind of money might be involved in the conversions, particularly, when the Coast Guard isn't quite sure what it wants in the first place and might be, therefore, inclined to overrequire in the interests of conservatism.

I'm very worried because three-quarters of a million looms very large on the horizons of any of my fishermen right now.

Mr. FORSYTHE. Tell me a little bit about this package. What is entailed in this conversion?

Ms. SLOAN. Well, I'm talking the trawling. Not the tenders. My point is—

Mr. FORSYTHE. That's what I mean—just the one you're familiar with.

Ms. SLOAN. Well, what's involved is a package that involves the winches, the net reels, the—in some cases, advanced hydraulics—most cases, advanced hydraulics because most of those vessels were not built as potential combination vessels; in some cases rearranging the deck.

Mr. FORSYTHE. These are things that really are not safety oriented.

Ms. SLOAN. No; they are not safety oriented at all, but they are packages.

Mr. FORSYTHE. Only to make them operate.

Ms. SLOAN. They are packages. They have been worked out so that these vessels can become combination vessels in a new fishery. They are not anything experimental; they are not—at this point, they are no longer new; they are about 3 years old—3 or 4 years

old and the package is running in the neighborhood of three-quarters of a million dollars.

So I shudder to think what the time and the development cost of a conversion of my vessels to allow them to tender when they are not fishing in the crab fishery which we know is a depressed fishery at this time—what that costs to run—I think it would be uneconomic. I think, in the traditional fisheries, it would have a significant negative impact and, in terms of our getting into nontraditional fisheries, I don't even want to speculate.

Mr. FORSYTHE. You wouldn't even want us to study as to whether there are recommendations in terms of construction, design—

Ms. SLOAN. Again, Mr. Forsythe, I would say: Who studies with what intent? Because we have had any number of well-intentioned people who don't know the bowel from the stern.

Mr. FORSYTHE. Well, we'll have some more discussions, I'm sure, down the road.

Mr. HISCOCK, you state that a SAR case—I guess you partially answered this, and I want to come at you again because you made this as a statement—that the cost of a SAR case for a fishing vessel is four times that for a recreational vessel. What basis do you have for that?

Mr. HISCOCK. The original basis for the statement was that it takes about three times as long in sortie hours to do a fishing vessel case as it does a recreational boat case. That data comes straight from the Coast Guard's search and rescue data file for fiscal year 1982.

If you look at the kinds of resources that have to be used on a fishing vessel case such as high and median endurance cutters, aircraft, helicopters and the like, it's not unlikely to suppose that the cost could be at least four times as much per case.

Mr. FORSYTHE. Is this a question of distance largely or separation from—

Mr. HISCOCK. It's largely a question of distance, yes, because most of the recreational boat cases occur close to shore and take smaller and less expensive resources to respond to.

Mr. FORSYTHE. You also state the number of commercial fishing vessels is unknown. The Coast Guard has informed us that this is really not the case.

Mr. HISCOCK. They will tell you that there are somewhere in the neighborhood of 32,000 documented commercial fishing vessels. They will not tell you how many State-numbered commercial fishing vessels there are. And they will freely admit that.

Mr. FORSYTHE. Well, that State information would be available from the States, I would assume.

Mr. HISCOCK. Maybe, but a lot of the States do not separate out recreational, State-numbered boat and commercial, State numbered. But it could be found if somebody had the will to find it.

Mr. FORSYTHE. Well, that, I agree. Without having a data base on a fishing vessel case such as high-median endurance cutters, aircraft—helicopters and the like, it's not unlikely to suppose that the cost could be at least four times as much per case.

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Mr. HISCOCK. It's largely a question of distance, yes, because most of the recreational boat cases occur close to shore and taker smaller and less expensive resources to respond to.

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Mr. HISCOCK. Maybe because a lot of the States do not separate out recreational, State-numbered boards and commercial, State-numbered.

But it could be gotten if somebody had the will to get it.

Mr. FORSYTHE. Well, that, I agree. Without having a data base, all the rest of this gets to be a relatively flimsy projection and the idea is I suspect you've got a pretty good case if you really had a data bank.

Thank you.

Thank you, Mr. Chairman.

Mr. Chairman, before we do move on, I have a unanimous-consent request and this is from Mr. Pritchard—to insert a statement by Dr. Edward Wenk of the University of Washington at Seattle. I ask that that be inserted for the record. The statement is based on an intensive study that he completed in 1982, entitled "Improving Maritime Safety in the Puget Sound Waterway."

Mr. SRUDDS. Without objection.

[Material referred to follows:]

STATEMENT OF EDWARD WENK, JR., EMERITUS PROFESSOR OF ENGINEERING AND PUBLIC AFFAIRS, UNIVERSITY OF WASHINGTON, SEATTLE

It is quite a privilege to be invited by the committee to contribute to current hearings on the U.S. Coast Guard, in particular regarding their responsibilities for maritime safety. Questions of ship and marine system safety have been a significant focus of my professional practice and research for over 40 years, and I hope that insights derived from that experience will prove useful to your inquiry.

In the interest of brevity, I shall concentrate on principles and findings applicable generally to marine traffic systems in coastal and inland waters, derived largely from my recent studies of Puget Sound. Analysis was based on (1) casualty statistics: worldwide, U.S. waters, local Puget Sound waters, and Canadian Northwest inland waters; (2) on interviews with a wide range of users of northwest waterways; (3) on development of a repertoire of hypothetical accident scenarios that connected casualties with cause, and (4) on application of general understandings of the source and time-dependent dynamics of hazardous situations in other forms of transportation and technological enterprises.

The discussion which follows embraces:

Basic definitions, premises and concepts of marine safety;

Causes of Marine Casualties;

Options for Enhancement of Safety; and

Recommendations.

BASIC DEFINITIONS, PREMISES AND CONCEPTS

The basic rationale for improving marine safety is to accommodate increased density and diversity of forecasted traffic at reduced risk—risk to human life, to property and to the environment. To be sure, this has always been a major concern of ship owners, ship operators, ship designers, and in recent decades, of public agencies

mandated by law as steward of the public interest. Statistics confirm, however, that serious accidents still occur. Indeed, there is almost universal recognition that over the last decade the number of ship collisions, fatalities and financial losses have not been significantly reduced, despite the introduction of the latest in technologically-derived risk reduction measures. The collision rate per vessel trip, that is, the collision exposure index has actually increased. Lives are lost. Vessels are lost. Ferry docks have been regularly knocked out of service. Bridges have been destroyed with loss of lives and property and incalculable public inconvenience in the subsequent hiatus. Fishing nets have been cut. Oil spills continue.

In no other transportation mode is the accident rate, relatively, so high. Because other witnesses have probably underscored this melancholy condition, no elaboration is offered here. The data, however, are readily available, and have been the subject of commentary by the National Transportation Safety Board.

Before proceeding, it is essential to deal with the meaning of "safety". For one thing, safety cannot be derived as an absolute number or condition from the physical attributes of the transport system. Rather, safety must be defined as a socially acceptable state of risk. Thus, perceptions as to what is acceptable vary among different groups in our society, at different times. We have witnessed, for example, a sharply reduced tolerance for maritime pollution over the past 15 years, probably triggered by the *Torrey Canyon* incident. And we should recognize a heightened sensitivity by the general public to technologically induced risks to life, especially of innocent bystanders.

It turns out that there are conspicuously different states of acceptable risk, depending upon whether it is voluntary (as with mariners) or involuntary (as with ferry passengers on a regulated common carrier). It must also be pointed out that neither the exact state of safety nor predictions of trends can be based entirely on historical casualty data, because of the fundamental difficulty of appraising low probability, high consequence events (such as at Three Mile Island). The most credible mode of analysis lies in a dissection of danger, its source, its evolution and its mitigation.

Dangerous situations involve a chain of events that can lead either to an incident or to an accident. Then, an impending casualty encompasses a range of possible consequences, from trivial to catastrophic. What distinguishes a close encounter from a fender-bender, or from a calamity, depends on very subtle circumstances—most, but not all, subject to decision by the ship operator.

Accordingly, attention must be fastened on decision making by that person on the bridge. All aspects of the decision process are awakened: threat perception, situation analysis, response by choice of a collision avoidance action, and if a casualty occurs, further choices to limit damage. This context for accidents thus puts a premium on information available to the ship operator for risk reduction, and on the ability of these individuals to process that information effectively through education, training, experience and skill.

The ship operator is thus the prime element in safe operation, a matter dealt with at greater length in discussing human elements as cause. But it is not the only element. Also important are such factors as traffic density and mix, navigational constraints and conflicts due to waterway geography, severe environmental conditions of waves and weather, conflicts in use by fishermen and recreational boaters who have vastly different perceptions as to rights and obligations, economic considerations, and finally, the degree to which the waterway is monitored, patrolled and disciplined.

In short, many of these elements involve aspects of human behavior, with vital social, economic, cultural, legal and institutional implications well beyond the ostensible boundaries of the casualty locale and event.

#### CAUSES OF MARINE CASUALTIES

Some thirty-one possible causes have been catalogued as potential generators of maritime casualties, that is, collisions, groundings, ramblings, fire, equipment failure, or wake damage. All types of vessels—tankers, freighters, tugs, ferries, government vessels, fishing and pleasure craft—have been involved in all types of accidents, stemming from all conceivable causes. Conspicuously, in all statistical compilations, human error is the most frequent source of accident, ranging from 65 to over 80 percent. Some twenty-two different modes of error have been identified, including what might be termed ignorance, idiocy, blunder and mischief.

Thus, at this advanced state of maritime technology, there is every reason to consider, as first priority, those measures which could reduce, mitigate or prevent acci-

dents in which the human element is both a powerful source of danger, and the primary medium for averting serious consequences.

#### OPTIONS FOR ENHANCEMENT OF SAFETY

Risk reduction measures for vessel movement accidents generally fall into seven categories: Early warning; traffic control; improved personnel qualifications; vigorous policing; redundancy in technical systems; improved ship design; and improved port and waterway configuration.

Under these seven headings, some fifteen risk mitigation measures were identified in studies of marine traffic on Puget Sound. Of these, some six were selected as having the greatest promise of effectiveness, while involving the least cost and disruption to current institutional arrangements:

- (1) Strengthening Professional Qualifications and Training of Mariners, at all Levels;
- (2) Imposing Selective, Positive Vessel Traffic Control;
- (3) Standardizing Bridge-to-Bridge Communication Protocol;
- (4) Imposing Selective Speed Limits, Depending Upon Location, Ship Type and Weather;
- (5) Strengthening Policing and Enforcement, with Stiffer Penalties for Violations; and
- (6) Improving Weather Forecasting and Real-Time Reporting.

All of these propositions deserve elaboration, and I should like to refer the committee to the complete report that I submitted to the U.S. Coast Guard on December 15, 1982. A few details are extracted here to support concluding statements.

As to personnel qualifications, it is clear that with human error so significant a cause, this is an area deserving of immediate attention. Proficiency should be sharply upgraded. It should be tested by simulated emergency situations, by periodic re-testing, by demonstrated competence in simulators to sharpen decision skills, with special emphasis on shiphandling, radar and watchkeeping in fog, communications and damage control. Experience should be required before upgrading, utilizing documentation from log book entries as evidence.

As to tightening enforcement and policing—Rules are meaningless if ship operators perceive Coast Guard indifference to violations, infrequent prosecutions and trivial penalties. Without exception, every waterway user that was interviewed was critical of the neglect by the Coast Guard of their mandated regulatory functions. It was said that the Coast Guard had a splendid record for search and rescue, but that they were so desirous of maintaining this "good guy" image that they were reluctant to inflame hostility of mariners by rigorous enforcement. The serious mismatch of appropriated funds and missions does not seem an adequate explanation for neglect. Unless violators are apprehended and punished, there is little incentive for others to be conscientious in their performance.

On increased control by the Vessel Traffic System—a number of amendments could be made using existing hardware, but changing protocol. For one thing, more bridge-to-bridge communication could be encouraged and subject to formal rules, with VTS monitoring to be sure that early warnings occur, rather than filling the air with advisories that are redundant for most of the auditors. Additionally, vessel proximity control could be instituted wherein VTS operators issue directions for specific vessels so as to maintain predetermined spacing. That is, for certain vessels, control would be exercised by establishment of a "space bubble", a region around a vessel into which no other vessel is permitted. That bubble size would depend on vessel speed, cargo, environmental conditions, etc. Finally, conflict among competing users could be reduced to obviate hazardous encounters. Precautionary areas near ferry slips could be buoyed as off-limits; counter traffic of non-commercial vessels could be prohibited in certain lanes; recreational events might be restricted from lanes, and fishing areas adjusted to eliminate conflicts and providing alternative fishing areas or days so as not to erode the fishing economy.

As to speed limits—the major problem appears to be acceptance of ferry practices of running at standard speed in thick fog.

On such weather-related problems, there is a serious deficiency in many areas from inadequate reporting of fog which is a known contributor to accidents. Weather stations have been reduced; real-time reports are often from land-based stations remote from the waterway; marine forecasts are not sufficiently detailed to reveal local conditions; accuracy of forecasting does not seem to have improved with the advance in technological aids. And most serious, no formal requirements for weather reports or forecasts in relation to marine safety have been established by any

federal authority, such as exist for aircraft safety—as to frequency, timeliness, or locale in relation to statistically severe weather or vessel concentration.

Apart from these six specific risk reduction measures, two other propositions are suggested to enhance safety.

First, any worst case analysis of waterway safety would identify passenger ferries as the primary source of concern. The reason is obvious. Ferries make more transits than any other class of vessel. They regularly cross traffic lanes. They are under pressure to adhere to schedule, even in thick fog. So they have the greatest exposure. They carry numerous passengers and hazardous cargo (fuel in motor vehicles). Older vessels carry little internal compartmentation to limited flooding in case of accident. Ferry personnel have been reduced to cut costs. Many are insufficiently trained to act in any emergency. Ferries carry few life rafts so that, in Puget Sound, passengers in the water are vulnerable to intense cold and fatal hyperthermia. And contingency plans rescue in case of a serious accident are not quite credible. Although there has fortunately not been a serious ferry accident in recent years, there have been unnumerable near misses. And as was said before, the difference between an incident or an accident may be just plain luck.

This leads to one last point. Given the imperfections in methodology in dealing with safety, it has been found from other systems that the best predictor of hazardous conditions, in advance of an epidemic of casualties, is the filing and analysis of reports on close encounters. This process is heavily relied upon for air traffic safety, wherein roughly 5,000 reports are filed annually. When patterns repeat themselves, preventative measures can be taken. The same process would be applicable to maritime traffic. It would then be possible to estimate how close vessel traffic systems are to a threshold of danger, and which particular conditions are the most ominous.

#### RECOMMENDATIONS

The National Transportation Safety Board has made numerous recommendations over the last decade regarding maritime safety. A major fraction await action, largely by the U.S. Coast Guard. Indeed, there appears to be high level of viscosity on the part of that agency to respond. It thus remains for the U.S. Congress to determine, as is happening in these hearings, why there is such delay.

In that same vein, in my December 15, 1982 report, I recommended that the U.S. Coast Guard evaluate findings of the nature summarized above, to implement risk reduction measures where confirmed, to institute a new system of data collection for close encounters, and to take other measures that would promote safety by operators and attract incentives, for example, by insurance companies to encourage improved safety practices. Recommendations for this study have received endorsement by a number of users of Puget Sound, including some 52 ferry masters, pilots and others. In addition, notice has been received that the study is being used as a retraining text by the British Columbia Ferry System.

So far as is known, this most recent study continues to be evaluated, but without any public comment or action.

I strongly urge this Committee to examine the state of maritime safety in U.S. waters, and not wait, as so often happens, for a calamity to then trigger remedial action that could have been instituted on the basis of sound analysis. We have too many experiences with passenger ship fires, absence of lifeboats on the TITANIC, and other examples to have history repeat itself.

U.S. COAST GUARD,  
Washington, D.C., July 27, 1983.

Hon. JOEL PRITCHARD,  
*House of Representatives,*  
Washington, D.C.

DEAR MR. PRITCHARD: The report by Dr. Edward Wenk Jr., about which you wrote me on May 31, addresses many areas of interest that we look at and deal with on a regular basis. Actions responsive to the study recommendations are being taken, or are under consideration.

One aspect of Dr. Wenk's report related to a National Transportation Safety Board recommendation associated with ferry operation. We are moving ahead on a project to have ferry routes printed on all nautical charts for Puget Sound. By doing so, we hope to enhance marine safety by increasing user awareness and alerting mariners to the possibility of encounters with ferries in certain areas of Puget

Sound. The project is being carried out in cooperation with Washington State Ferry System representatives and the National Ocean Service.

The other recommendations of the report are included within the following underlined general areas. Our comments follow:

Evaluate the effects of—

Standardized bridge to bridge radio/telephone communications requirements: Proposed changes to legislation and rules were under consideration during Dr. Wenk's study. Measures to increase bridge to bridge communication effectiveness, such as user education efforts and Coast Guard/Federal Communications Commission cooperation in increasing enforcement activities, have been instituted.

Selectively imposed speed limits and control: We have control authority now. It is used when necessary. Existing control policy is periodically reviewed. Change is made when indicated. Rosario Strait Rules were amended on 21 July 1980 to impose selective control on vessels over 75,000 DWT. Vessel Traffic Center standard operating procedures governing speed reduction recommendations in low visibility were issued 3 May 1980.

Increased enforcement and stiffened penalties for violators and strengthened professional qualifications for Mariners: Evaluation of these two recommendations is a continuous process. It has been so for some time for all ports, including Puget Sound. Additionally, professional qualifications are addressed with regularity at various international maritime organizations where the U.S. Coast Guard serves as the U.S. representative.

Evaluation and support of new safety measures by a broad spectrum of the Puget Sound area community: Past actions to enhance safety and resolve user conflicts on Puget Sound Waters included an advance notice of proposed rulemaking (16 April 1981), a public hearing (3 June 1981), and an open conference for the maritime community (13-14 October 1981). These actions resulted in the implementation of the 1972 Collision Prevention Regulations on all Puget Sound Waters on 24 December 1981. A Puget Sound Users Forum is being sponsored by the Sea Use Council. Their first meeting was on 24 September 1982. It is expected they will continue to meet. The local Coast Guard command will continue to work with them, and other marine community groups for the advancement of marine safety.

Data collection and analysis of marine casualty and "near miss" information: Evaluation of waterway safety is an on-going process. Puget Sound is one of several areas that are routinely reviewed and evaluated. "Near miss" information collection has been considered before. It is a concept fraught with variables associated with the differences in ports or waterways and vessel operating characteristics. International standards for casualty and "near miss" reporting have also been considered at the International Maritime Organization. There was no consensus and the item has not moved beyond subcommittee level. Wholesale changes in casualty reporting would be unrealistic at this time, and most likely unacceptable to both the national and international maritime community.

Other recommendations are more within the purview of other agencies. For example, the recommendation concerning weather information is being sent to the National Oceanic & Atmospheric Administration for consideration and action. Additionally the State of Washington Ferry System is being advised of the recommendations relevant to their operations.

Sincerely,

J. S. GRACEY,  
*Admiral, U.S. Coast Guard Commandant.*

IMPROVING MARITIME TRAFFIC SAFETY  
ON  
PUGET SOUND WATERWAYS

- A TECHNOLOGY ASSESSMENT -

by

Edward Wenk, Jr., Project Director

Richard Storch; Thomas Laetz, Eric Lichty and Charles Black

University of Washington  
Seattle, Washington

December 15, 1982

IMPROVING MARITIME TRAFFIC SAFETY  
ON  
PUGET SOUND WATERWAYS

Abstract

This report addresses two major questions: 1) Are Puget Sound waterways operating at acceptable risk? 2) By what additional ways and means can current and projected growth in density and diversity of traffic in Puget Sound waterways be accommodated at reduced risk? These questions did not arise because of specific alarm over the number of maritime incidents or severity of consequences--fortunately, this region has had no recent disaster. Rather, the focus on risk management of these waterways arises because it is not known how close the maritime system is to a threshold of danger and because public awareness over technologically induced risks to life, property and the natural environment has grown sharply in recent years, while the acceptability of accidents has shrunk.

A relatively new process of technology assessment is employed to analyze both the functional effectiveness of different risk reduction measures and their relative suitability in terms of reactions by waterway stakeholders. This process thus reflects that in the final judgment society determines the level of acceptable risk. Seven basic steps are involved: 1) defining the scope, 2) explicitly stating premises and concepts, 3) establishing a base of facts, 4) developing action alternatives, 5) delineating effects, technical and social, 6) identifying key stakeholders potentially affected by initiatives, and 7) choosing options on the basis of estimates of "what might happen, if."

As to scope, analysis encompassed the entire Puget Sound waterway, all classes of traffic, all types of casualties and all accident causes. Connections between these variables were defined at the highest level of abstraction, that a) the key to safety primarily lies in decisions on the bridge, and b) presence of hazard and threat of accident trigger an event chain which can lead to either a near miss incident or accident, the latter leading through another event chain to a wide range of consequences from fender-bender to catastrophe. The low incidence of casualties with severe consequences or even absence thereof, is thus considered not a reliable indicator of the state of safety, except when serious accidents become too frequent or consequences of rare events become intolerable.

The primary factual base was casualty data from annals of the U.S. Coast Guard (1974-1981) and Canadian Coast Guard (1975-1980). Because of too few data points and lack of reporting details, this information was supplemented with records of rule violations, interviews of waterway users (especially noting unreported close encounters), and patterns of casualty triggers extracted from hypothetical accident scenarios generated by the research team.

This triangulation on cause led to confirmation of the overriding importance of human error, in some 25 identifiable categories, thus correlating with patterns extracted from accident statistics on other U.S. and worldwide waterways. This initial conclusion substantiated the research premise that risks would be mitigated by intervention in the threat event chain through appropriate decision response. At the same time, the unique characteristics of Puget Sound waterways (i.e., traffic growth, peculiar mix of ship traffic, navigational constraints and conflicts, environmental conditions, high economic value, international relationships and the existence of a Vessel Traffic System--VTS) mandated nomination of risk reduction measures that were custom-designed for local conditions.

To sharpen analysis of casualty data, scope was then limited to worst case situations in terms of consequences: to classes of vessels subject to VTS control, and to traffic, navigation and ship handling incidents under the rubric of collisions, grounding, and ramming. This involved roughly 228 maritime incidents involving large vessels in U.S. waters for the study period.

Considering the special characteristics of the region and identifying means to break the casualty event chain for all vessel classes, some 15 different interventions were deemed potentially effective in risk mitigation. After testing functional effectiveness of these nominations against 31 accident causes, six measures were found most effective:

- strengthen professional qualifications of mariners, at all levels;
- augment the VTS with selective central control;
- standardize bridge-to-bridge communication requirements;
- impose selective speed limits;
- increase enforcement and stiffen penalties for violators; and
- improve weather services of forecasting and real-time local reporting.

A combination of these measures would be expected to enhance safety further, but there is no rigorous technique to compute the exact improvement in safety for any or all of these interventions. On the basis of pure judgment, it was estimated that with present traffic, risk can be cut at least in half by instituting all six measures.

The feasibility of implementing the six proposed safety initiatives was next investigated. Thirty-one (31) different impacts were identified as of greatest concern, spanning cultural, social, economic, legal, political, institutional, technical and ecological considerations. Thirteen (13) different groups were then portrayed as a representative cross-section of affected parties, including an imaginary party representing future generations. With impacts viewed qualitatively rather than quantitatively (e.g., direct costs as perceived, rather than as a specific dollar amount), a matrix scorecard was then constructed of impacts versus impacted parties.

It was found that only those parties directly engaged in waterway use significantly differ as to their rating of various interventions; the most widely welcomed would be the imposition of tougher professional



qualifications; ironically, counter-indications were manifest with increased enforcement. With none of the six measures, however, did adverse effects equal or exceed the positive. Some differences in acceptability were detected with implementation of all measures except for improvement in weather services, which seemed uncontroversial.

Other findings also deserve emphasis:

- Although it was not intended to single out any class of vessel for special study, the risk to ferry passengers was repeatedly found to be the highest in a worst case collision or grounding involving loss of vessel. A range of causal factors was uncovered, including excessive speed in fog, inadequate provision of liferafts and absence of credible rescue plans.

- In accord with observations in other waterways, the risk exposure index was not statistically reduced by the introduction of the Vessel Traffic System (VTS), leading to inferences that demonstrable contributions of the VTS to safety have been vitiated by increases in other contributing causes, one characterized as the "radar-assisted accident."

- These research findings strongly support past recommendations by the National Transportation Safety Board that still are not implemented.

- Differences between causal patterns in the U.S. and Canadian sectors were discovered, greater than would be expected for otherwise similar circumstances. The discrepancy of proportionately lower human error in Canada is probably due to different reporting and enforcement processes.

#### - Recommendations -

1. The U.S. Coast Guard should promptly evaluate these findings with regard to reducing risk in the entire Puget Sound waterway by adoption of six explicit safety measures just listed.

2. Where justification of new initiatives is confirmed, the U.S. Coast Guard should energetically pursue necessary steps toward implementation, including consultation with all waterway users so as to gain more harmonious acceptance.

3. The U.S. Coast Guard should promptly implement recommendations of the NTSB as they bear on this region's waterways, especially with regard to ferries.

4. The U.S. Coast Guard should design and put in place a new system of data collection on close encounters to pinpoint hazardous conditions without waiting for accident statistics to accrue. Procedures of the Federal Aviation Administration for air traffic could be followed, including use of an independent data collection agency to preserve anonymity of incident reporters, after advance consultation with transport system operators.

5. NOAA should (a) immediately evaluate these findings with regard to weather services, and (b) where confirmed take necessary steps promptly to implement improvements, especially reporting of fog and very severe weather. Initiatives should be taken to ease budgetary constraints.

6. Waterway users--the State of Washington Ferry System, owners and operators of deep draft merchant ships and tugs, U.S. Navy, associations of seafarers and of pilots should (a) evaluate these findings and (b) where confirmed, lend their public support to implementation of new safety measures.

7. Maritime insurers should assume a special responsibility to (a) evaluate these findings, (b) where confirmed, lend their public support to implementation of new safety measures, (c) inaugurate additional economic incentives for safety and (d) increase monitoring of vessels and their operation to assure compliance with regulations.

8. The State of Washington Ferry System should take immediate steps to evaluate risk to passengers and to implement those proposals under their cognizance that would enhance safety, especially regarding speed limits in fog, absence of life rafts and a contingency rescue plan.

9. With budgets so limited, the U.S. Coast Guard should evaluate tradeoffs in additional investments for safety of ferry passengers as between risk mitigating measures and standby rescue capabilities.

10. If major shifts occur in traffic among ports, waterway design should be evaluated to be sure that safety has not deteriorated.

11. An international standard should be developed for casualty reporting and aggressively promoted through appropriate international maritime bodies.

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On Puget Sound Waterways  
- A Technology Assessment -

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[COMMITTEE NOTE.—Due to restrictions on printing, the remainder of the report was retained in committee hearing record files.]

Mr. STUDDS. Mr. Hiscock, as you well know, many of the changes or requirements which you suggest have a cost—to the fishermen, presumably. The cost of an EPIRB, cost of exposure suits, cost of better liferafts. These costs, I assume, would be substantial, particularly for the owners and operators of smaller commercial fishing vessels who are operating, to put it mildly, on the margin, economically, under the best of circumstances.

Have you given some thought to what those costs would be and how realistically they might be borne by fishermen in those circumstances?

Mr. HISCOCK. Yes.

I worked up some figures on the costs for 4-man crew, 6-man crew, 8-man crew, 10-man crew, and 15-man crew, using a liferaft, exposure suits, and EPIRB's as the three items.

And I also did the list prices and the discount prices and, as an example, if you were to take a six-person vessel, which would have to have a six-man life raft, the highest cost would be somewhere in the neighborhood—for an ocean service raft, six exposure suits, and an EPIRB, of \$8,900. And, if you divide that over the 10-year lifespan of the equipment and by the six men, it comes out to about \$150 a man per year for 10 years. That doesn't seem to me to be a high price to pay to save a life. The low figure would be around \$120.

Mr. STUDDS. Ms. Nordstrom, forgive me if I focus on the other witnesses here.

Ms. NORDSTROM. That's all right. I'm enjoying myself.

Mr. STUDDS. I think it's quite clear that some very fundamental, philosophical assumptions lie behind the difference that we hear between Lucy and Mr. Hiscock here.

I am reminded of the New Hampshire license plate slogan. [Laughter.]

As a matter of fact, it seems to me—and I've often thought of this before, knowing what I know about some of the people who were probably behind that slogan in the first instance, that, Richard, if I understand you correctly, you might suggest that you would characterize—tell me if this is fair—Lucy's insistence that the requirements that you urge on us not be adopted—you might accept the slogan of the New Hampshire license plate but change the word “and” to “or,” is that correct? So that it would read: “Live free—

Mr. HISCOCK. Or die.

Mr. STUDDS [continuing]. And die.” Maybe change it the other way around.

But is that not really what's behind it? I think, when I hear Lucy testify, that it's the timeless cry of the fisherman to be left alone.

As a matter of fact, the fisherman, as you know—their initial enthusiasm for the 100-mile limit was somewhat tempered when they realized, among other things, that it applied to them as well—some of the conservation requirements of that legislation.

The fact that this is a public hearing and that there are all kinds of sensibilities in the room precludes us from quoting your average fisherman's response to the suggestion that the Government have

anything to do with this. Any government. Any part of his life—local, State, county, National, international, whatever you can think of. One of the glories of being a fisherman is that you are out in a world of your own in the natural world and you neither care nor wish to hear about the world of government at any level. I hear that ringing through all of your testimony, Lucy. To put it politely as you have managed to do, notwithstanding some of the more colorful of your clients: “Leave us alone.”

I hear on the other side from Mr. Hiscock a cry of—how do I characterize this: knowing where he lives and, having had the somewhat exhilarating and somewhat frightening opportunity to go in and out of Chatham Harbor on a commercial fishing vessel, I think I hear a corresponding cry of: Yeah, we understand that, but—there are some other considerations. I don’t know if you’ve ever gone in and out of Chatham Harbor but, for most fishermen, when they reach home, that’s the end of it; for the Chatham fisherman, that’s when the excitement begins.

The entrance to that harbor under normal conditions—never mind adverse conditions—is like what you pay for in an amusement park. It’s the worst part of the voyage—the most dangerous part of the voyage in many respects and I think perhaps that very experience lies behind some of what I hear Mr. Hiscock saying.

I don’t mean to put words in the mouths of either of you, but I think I do hear that kind of a conflict, fundamentally, behind what you are both saying and I would be interested in the response of both of you to that.

Ms. SLOAN. May I respond?

Mr. STUDDS. Certainly.

Ms. SLOAN. I think what you are hearing, Mr. Chairman, is not a lack or awareness to the problems and a growing awareness of an interest in safer fishing vessels and safer fishing operations. What we are very, very much afraid of is the kinds of proposals that Mr. Hiscock has made without consulting with the industry—that there be legislation without talking with the people who are directly involved in the industry on a day-to-day basis, and impacted by any potential regulation or legislation.

We have had any number of proposals made by people who were well-intentioned, who knew something—who had one leg of the elephant but not the whole animal by any means, talking about how the industry could be improved upon.

And the thing that concerns my people, as I think you know, is not that they are not interested in increasing the safety aboard their vessels. You know from MIDA; you know from MLA; you know from several of the organizations—not only in Massachusetts, but elsewhere in New England and, given the discussions we’ve had over the years, elsewhere in the country—that my fishermen are interested in increasing safety in their operations—both their fishing operations and their general at-sea operations, but they want to do it in conjunction with the guidance that the Coast Guard and you on the subcommittee can provide. They do not, however, want it handed down on high by somebody who has never gone out of Chatham Harbor or through the Oregon Inlet or over the Tillamook Bar.

That's what they want. They want to be involved in the exercise. They do not want it handed down from on high and, because by and large what we have been presented with is a bimodal approach—

Mr. STUDDS. A what?

Ms. SLOAN. Either do it now or we'll do it—

Mr. STUDDS. What kind of an approach was that?

Ms. SLOAN. Bimodal.

Mr. STUDDS. This committee would never be guilty of any such thing. [Laughter.]

Ms. SLOAN. No; but the executive branch would be extremely guilty were it not for this committee, we would have had that problem.

As you know, for instance, we had how many hearings on user fees? Four, I think it was, that I testified at. Those are the kinds of things that, if my people are given a bimodal choice by the executive branch or by anyone else, they'll say "no".

Mr. STUDDS. I don't even think this administration, given what I think of this administration, would give you whatever the heck that is.

Ms. SLOAN. Well, I'm reassured by that, but I think that's why you are hearing the clear-cut "no" because we think that we are being given only an alternative which allows us to do it the way well-intentioned but not necessarily well-qualified people want to do it.

And, if it's going to be done, we would like to be involved; we would like to have our people who are best qualified to address the issues—be an integral part, rather than merely commentators on the Federal Register.

Mr. STUDDS. Before I call on Mr. Hiscock, who is probably dying to respond, let me just say that you've been around here long enough to know that no one is about to suggest enacting legislation without consulting those who are affected by it.

The question is not: Will you be consulted? The question is: Do you want serious consideration for such legislation?

Ms. SLOAN. Not legislation, no, and that's why in my testimony I said "cooperative, informal programs with the Coast Guard and others who are concerned."

At this point, with the exception of the possibility of investment tax credits on certain kinds of advance safety equipment, I think, for the time being, that most of my people would prefer to work, cooperatively and informally, with the Coast Guard with marine extension—

Mr. STUDDS. You are prepared to put up with the owner's requirement of investment tax credits, as I understand—

Ms. SLOAN. Excuse me, sir?

Mr. STUDDS. I'm sorry. That was—

Ms. SLOAN. No; I am not. I want that as well, and I want the extension of CCS so we don't have to go to court for it.

Mr. STUDDS. I understand.

Mr. Hiscock, your turn.

Ms. Nordstrom, if you'd like to referee, that would be all right. [Laughter.]

This is fine.



Mr. HISCOCK. I sympathize with your original statement. And I sympathize with the position of fishermen who say: Leave us alone. And I have no objection to that feeling, provided that they don't turn around and require a service from somebody else. It is one thing to say: I want to be free. But it's another thing to turn around and say: Come tow me home, or come assist me.

And that is where I feel that the tables have turned in the last 50 to 100 years. Fifty years ago, we didn't send boats and helicopters and airplanes to look for anybody at sea because we didn't have them. Today, we have the resources. We have the capability to go and look and we have the technology to save lives.

If the industry were to take it upon themselves to do it voluntarily and do it 100 percent and be fully cooperative, I don't think we'd be sitting here talking about this. But that is not, in my opinion, the case.

To give you examples, specifically, I have heard of cases and people have reported to me of instances of trying to go aboard a New Bedford fishing vessel, with an exposure suit, and being told by the operator: You can't bring that aboard; not everybody has one. When I hear statements like that, I begin to think it is time somebody else started to make some of these decisions.

I would also point out that much of my recommendation is for exactly the kind of voluntary cooperation between the fishing industry and the Coast Guard that Miss Sloan is suggesting.

The problem is that, at the moment, there is nobody in the Coast Guard to cooperate with—for the most part. There is nobody in the Office of Merchant Marine Safety who is focusing any attention on fishing vessel safety. I would like to see that changed. I would like to see it changed at district level.

I think there needs to be, as a beginning—there needs to be that kind of cooperation.

Mr. STUDDS. I would assume you would have added, had you recalled it, the statement—the citation in your own testimony that, in the last 2 years, eight Coast Guard air crewmen have lost their lives while trying to assist fishermen in distress.

Mr. HISCOCK. That's correct.

Mr. STUDDS. Do I—even without my glasses, do I see you waving?

Ms. SLOAN. As regards that concern, we have said in the hearings on user fees, we would pay and we would work with the Coast Guard to determine reasonable fees for services rendered.

On the question of SAR—and I made reference in my testimony to the Coast Guardsmen who have lost their lives looking for my people—that nor do we expect the police not to respond to them when we call them in an emergency.

I submit that, in many ways, the roles are analagous. If you ask for help from a public sector, you are doing it in part because, presumably, you are a taxpayer and entitled to call upon some of those resources and some of them that may be extraordinary or we may discuss further we have said: Under certain circumstances and working it out, we would pay reasonable fees for services rendered. We would infinitely prefer, as I said in 1981, even, to pay for services than to have them be at the mercy of commercial operations. We would rather pay the Coast Guard.

So I think that to say that we cannot ignore the fact that we have a public or civic responsibility here is to miss what we have said in other years in testimony on this and related subjects.

And, in terms of people in the Coast Guard, there may not be an officially designated office but I know that, around the country, my people who have wanted to work with people in the Coast Guard on safety or any related issue, have found people in any Coast Guard district, in any port, who would be willing and ready to work with them and they have.

I can give you a list of some of these people over the years who have worked with my people. So, although it may not be institutionally apparent, over the years, there have been a number of people in the Coast Guard who have worked with my people on safety and it's been extraordinarily productive for us. And we've appreciated it.

Mr. STUDDS. Mr. Forsythe, would you like to either prolong or exacerbate this production?

Mr. FORSYTHE. No.

Mr. STUDDS. All right, if everybody is prepared to stand on their statements, I want to thank you all—Ms. Nordstrom, you, for your patience. I think you've articulated—you've helped us articulate what is a real dilemma for thoughtful people here. I just know that most of us or many of us—certainly, those of us who represent coastal districts—have found ourselves, on more than one occasion—and once is too much, too often—at the request of family members involved, begging the Coast Guard to extend search and rescue operations for longer than they would in the outside hope that someone could be found in the location of the missing vessel.

And, in asking on behalf of members of the family in the cases of extreme emotion, that aircraft be kept in the air, boats be kept in search patterns—one would like to think that, at the very least, some of these precautions had been taken, because risks are involved, as has been pointed out.

It is not an easy question for the very reasons that you have helped us articulate here, and I think you've performed a real service and I thank you for that.

The subcommittee stands adjourned.

[Whereupon, at 3:55 p.m., the subcommittee hearing was adjourned.]

[The following was submitted for the record:]

FRANK B. HALL & CO. OF WASHINGTON,  
Seattle, Wash., August 8, 1983.

Ms. KATHRYN NORDSTROM,  
Pacific Seafood Processors Association,  
Washington, D.C.

DEAR KATHRYN: I thought it best to review our recent conversations on the subject of fishing tenders.

For the last several years as I have indicated, they had been the safest of fishing vessels, both from Hull insurance basis and from a crew injury basis. Because of these facts, there is still an aggressive and competitive insurance market for both of these coverage areas.

Presently, our Tendermen's Worker's Compensation rates on most of our accounts command the same experience credits for their rates that the shoreside employment does. If trended, I would have to assume that these rates have gone down over the past four years on a net basis.

The Hull insurance experience on the tenders also has been excellent both on an individual vessel basis, and on our fleets.

I hope that this brief commentary and summation of our conversations pinpoints those discussions. Please let me know if there is any further assistance that I can give you.

Yours very truly,

JOHN CARROLL.

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#### STATEMENT OF SEA-LAND SERVICE, INC.

Sea-Land Service, Inc. welcomes the opportunity to submit comments on the critical issue of merchant marine safety, and specifically the related role of the U.S. Coast Guard.

Sea-Land is the world's largest container transportation system, operating 36 U.S.-flag vessels without government subsidy. Merchant marine safety is a subject of particular importance to us.

We would like to provide some general remarks about the subject and then offer comments on the related bill, H.R. 3486.

Merchant marine safety is an all-encompassing discipline from the moment a vessel is born on the shipway, to the time of outfitting and manning, and throughout her years of service for the shipowner and operator. Interwoven with this discipline are the harsh and unforgiving environment in which a ship must operate, and most important of all, the human factor. Accomplishment of the primary objective of safety is ultimately dependent on the effectiveness of the people to whom it is entrusted, based on their training, judgement and competence.

We are confident that a sufficient statutory and regulatory framework exists to adequately provide for merchant safety. This framework is exceptionally detailed and is sufficient to ensure the security of assets and personnel, as well as to protect the environment. Statutes and regulations, however, are only as effective as the people who enforce them. Personnel in the U.S. Coast Guard Branch of Merchant Marine Safety are dedicated, career-oriented people in the upper levels of management. Stability and expertise below this level, however, is lacking. This lack of expertise is by no means due to a lack of intelligence or ability. It is rather the consequence of a system that frequently rotates its personnel, and turns out people who have a broad base of knowledge as generalists but lack in-depth experience and expertise in any one field. To this extent, we do not feel that the marine safety regulations are enforced with sufficient competence.

During vessel certification inspections, for example, we see young, relatively inexperienced inspectors who often tend to react to a problem in one of two ways. They either run for the telephone to describe a situation to a superior and rely on his or her judgement for the final decision; or they use their own limited text-book knowledge and act by the letter or book, without the necessary experience or practical expertise to accurately interpret and evaluate the situation.

The result of an inaccurate or incomplete on-site evaluation can be unnecessary delay and expense to the owner. And, more important, it can result in the oversight of a significant problem which could affect the safe operation of the vessel.

Unfortunately, the training of most field Coast Guard inspectors is too broad-based. They are junior officers who lack the depth of technical background in merchant marine safety to make the necessary decisions for a complete, accurate evaluation.

Merchant marine safety programs must be organized around a professional cadre of people who are trained and experienced in that area. This is not a reality in the Coast Guard today. The organization is spread too thin and performs too many activities; all under extreme and economic pressure.

Marine safety should be entrusted to an organization whose sole purpose and objective is marine safety alone; and organization that is unencumbered by a myriad of other roles. The importance of safety is too great to be a shared mission.

One additional point must be made regarding merchant marine safety. That is the major role played by the vessel owner.

Unfortunately, the degree of effectiveness of owners varies widely. It is directly proportionate to the degree of the commitment made by the principals of each Company to a responsible policy of safety and enforcement. Safety must be a basic tenet in the owner's everyday code of business conduct. He cannot maintain a "get ready" mentality only for the midperiod or biannual inspection. Safety demands nothing less than an ongoing proposition of dedicated intent and must be administered at the fleet level by owner management. We can say that this is certainly the case

with Sea-Land and are confident it is the case with the other U.S.-flag liner operators.

#### IN SUMMARY

Current statutory and regulatory framework is adequate. More regulation is not the solution to preventing marine accidents and related loss of life.

Existing regulations are not consistently enforced with an acceptable degree of competency. A greater degree of training and experience in marine engineering and naval architecture is needed in the field.

Certificate and License examination and review procedures require higher standards of competency.

The lessons learned from past maritime tragedies must be communicated in a constructive learning process. Overreactive legislation unnecessarily creating more cost and operational burden on the shipowners is not the solution to the problem.

The Coast Guard, although highly dedicated, is spread too thin. It maintains a high degree of expertise at upper levels of management but lacks that expertise at the "hands on" level with the Merchant Marine Safety Branch.

Coast Guard personnel training and stability need to be addressed and funds need to be appropriated for the Coast Guard to function as needed in the area of Marine Safety; or

If the Coast Guard safety program cannot be upgraded, the vessel inspection and certification responsibilities should be transferred to an independent, professional organization.

Regarding the proposed legislation, H.R. 3486, we respectfully refer to a letter dated January 4, 1983 to Congressman Walter Jones, chairman of the full committee, from Charles Hiltzheimer, chairman and chief executive officer of Sea-Land Industries, Inc. This letter provides our position on H.R. 7038 before the last Congress; a bill which was similar to H.R. 3486, currently under consideration. We have attached a copy of that letter to this statement and will briefly summarize our views as they pertain to the current pending legislation.

Sea-Land believes that the purpose of H.R. 3486 must be clarified. Such legislation, coming on the heels of such catastrophic and extraordinary accidents as the losses of the *Poet*, *Ocean Ranger* and *Marine Electric* should emphasize the measures that can be taken promptly to locate and save survivors. We address this in our January 4 letter in reference to improving EPIRB units. However, the thrust of H.R. 3486 is only to (1) to increase penalties for vessel noncertification and for not reporting vessel locations, (2) to set more stringent requirements for vessel/owner reporting, and (3) to set reporting requirements of acts of marine incompetency or misconduct by licensed personnel. Thus, prevention of loss of life at sea in catastrophic accidents, if this is the prime intent of this legislation, will not be solved by passage of H.R. 3486. Having said this, we will now summarize Sea-Land's thoughts on the proposed legislation.

We support without reservation, section 4 (Licensed Personnel Accidents). All too often negligent actions which could have led to the revocation of an officer's state license are not per se considered in the federal licensing process.

We believe that adding additional certification requirements, in this case a 60-day prenotification requirement, will merely create more paperwork without any guarantee that more vessels will be inspected on time.

We support changing the current legislative language in both sections 2 and 3 to impose even stiffer mandatory penalties for noncertification with the burden on the owner/operator to produce any mitigating circumstances.

We believe that section 3 (Vessel Owner Reporting Requirements) should be amended so as not to levy additional reporting requirements on owner/operators. The present requirements are sufficient when met.

We go into more detail on each of these positions and offer specific amendments in the letter attached to this testimony and submitted for the record.

In conclusion, we would like to emphasize one point. Certificates and reports do not keep ships afloat or people alive. While it is certainly important that U.S. vessels be maintained properly and inspected regularly, this is only a small part of safety at sea. To the best of our knowledge both the *Poet* and the *Marine Electric* had valid certificates and properly licensed personnel when they put to sea on their last voyages.

If the members of the Coast Guard Subcommittee are concerned with prevention of loss of life at sea, as we know they are, they should concentrate on programs which could be considered and evaluated for improving vessel location ability and life preservation at sea.

Thank you for your consideration of our statement.

SEA-LAND INDUSTRIES INVESTMENTS, INC.,  
Menlo Park, N.J., January 4, 1983.

HON. WALTER B. JONES,  
Chairman, Committee on Merchant Marine and Fisheries, U.S. House of Representatives,  
Longworth House Office Building, Washington, D.C.

DEAR MR. CHAIRMAN: In response to your request of November 30, 1982, we appreciate this opportunity to present a statement for the Record on H.R. 7038—the Maritime Safety Act of 1982.

Sea-Land Industries Investments, Inc., is headquartered in Menlo Park, N.J. Our liner company, Sea-Land Service, Inc. ("Sea-Land") serves more than 180 ports and cities in more than 50 countries and territories. Its 39 U.S.-flag vessels have on board at any one time approximately 1560 officers and seamen. Thus, we are extremely interested in supporting measures that protect their safety and concur that H.R. 7038 "blazes a trail" in that direction. In this regard, there are sections of H.R. 7038 which Sea-Land supports without any reservation; sections which we feel are in need of stiffer mandatory penalties; and sections which we believe need to be amended so as not to impose unnecessary vessel reporting requirements on owners/operators when in fact "tightening up" of the present system may serve the same purpose.

Before commenting on these sections, Sea-Land believe that the purpose of H.R. 7038 must be clarified. Such legislation coming on the heels of such catastrophic and extraordinary accidents as the loss of the *Poet* and *Ocean Ranger* possibly should emphasize the measures that can be taken promptly to locate and save survivors (we address this briefly below in reference to EPIRB units). However, the thrust of H.R. 7038 is to increase penalties for vessel non-certification and for not reporting vessel location. Thus, prevention of loss of life in catastrophic accidents, if this is the intent of the legislation, will not be solved by passage of H.R. 7038.

Sea-Land supports, without reservation, section 4 (Licensed Personnel Accidents) of H.R. 7038 wherein any incompetency or misconduct committed in the line of duty by a state licensed officer shall be used as evidence by the U.S. Coast Guard in weighing the officer's fitness to hold a federally issued license. All too often negligent actions which could have led to the revocation of an officer's state license are not per se considered in the Federal licensing process. We believe this is an unsatisfactory condition and should be corrected as done in H.R. 7038.

Section 2 of H.R. 7038 addresses the situation of vessels operating without proper certification. Sea-Land believes that adding additional requirements, i.e., in this case a 60-day prenotification, will merely create more paperwork without any guarantee that any more vessels will be inspected on time. Furthermore, in such a case as the *Ocean Ranger* we cannot assume that proper certification would have prevented its sinking. As you know, current regulations (46 CFR 91.01-1) already make it a violation of the law to sail a vessel without proper documentation. We believe it is impossible for the Coast Guard to produce a 100 percent failure free vessel certification system; however, owners/operators may think twice about allowing an inspection certificate to lapse if the penalty for such was a mandatory heavy fine with possible punitive damages. Such threat of penalties may automatically improve vessel certification.

In this regard, Sea-Land notes that the avowed intent of the penalty provisions of the proposed legislation is to supplant current mandatory, but insufficient, penalties with discretionary, but more substantial, potential penalty liability. Sea-Land strongly urges maintenance of a system of mandatory penalty assessment in addition to imposition of larger, more appropriate, discretionary penalty amounts. Indeed, parts of the proposal are internally inconsistent in this respect. Although the authority of the Secretary is specifically made discretionary, certain remaining provisions contain mandatory terms. See, e.g. section 2(d) on page 4, and section 3(a) on page 7, lines 6-8. Sea-Land recommends that these provisions be kept and discretion in the Secretary be removed.

In summary, we support changing the legislative language in both sections 2 and 3 of H.R. 7038 to impose stiffer mandatory penalties with the burden on the owner/operator to produce any mitigating or extenuating circumstances.

Sea-Land believes that section 3 (Vessel owner Reporting Requirements) of H.R. 7038 needs to be further amended so as not to levy additional unnecessary reporting requirements on owners/operators. Sea-Land vessels currently use the Automated Mutual Vessel Reporting System [AMVER], even though participation is voluntary, and the U.S.-Flag Merchant Vessel Locator Filing System [USMER] on all international voyages. Sea-Land instructs all its masters to comply with USMER requirements and holds them responsible to report as required during the course of vessel

voyages. On the basis of our experiences with these systems, rather than support imposition of a new reporting system, Sea-Land supports an upgrading of either or both AMVER/USMER to provide capacity to identify vessels that have not reported in as required. Sea-Land does not believe in a need for another "back-up" or additional reporting requirement because tightening the present system would be adequate.

A more positive approach for protection of crews at sea in the event of a catastrophic disaster could be the upgrading of Emergency Position Indicating Radio Beacon [EPIRB] units to automatically broadcast on vessel as well as aircraft frequencies when EPIRB units are activated. Such a safety measure would address the kinds of casualties that we are most concerned with as when a vessel (the *Poet*) or mobile offshore drilling unit (the *Ocean Ranger*) is lost in a sudden overwhelming sort of accident and where quite often distress messages can't be sent because of destruction of equipment or loss of personnel. In such catastrophic casualties the important requirements are to conduct a prompt search and to be able to pinpoint the location of survivors. The EPIRB, coupled with a "missed report" capacity in AMVER/USMER, are the best guarantees for meeting these needs.

Finally, we support the proposed amendment to Section 502 of the Merchant Marine Act, 1936 which advocates government/owner cost sharing for the purchase and installation of marine satellite communication systems.

In conclusion, Sea-Land believes that sections 2 and 3 of H.R. 7038 should be amended; we support, without reservation, section 4. To this end, we stand ready to assist you in redrafting H.R. 7038 to reflect the above recommended changes or to provide whatever other assistance is needed.

Thank you for the opportunity to submit our views on this legislation.

Sincerely,

CHARLES I. HILTZHEIMER,  
Chairman and Chief Executive Officer.

#### STATEMENT OF CHARLES H. FRITTS, NEW BEDFORD SEAFOOD COUNCIL

The New Bedford Seafood Council represents approximately 150 vessels and 1,600 crewmen who fish out of New Bedford, Mass. We appear today to discuss the safety regulations imposed on fishing vessels by the U.S. Coast Guard and those additional steps that can be taken to improve vessel safety.

The crewmen on the vessels are members of the International Brotherhood of Teamsters, Local 59. Both labor and management are very concerned about vessel safety and are dedicated to improving the safety conditions on all vessels.

New Bedford's vessels fish primarily on Georges Bank. This is 50 to 150 miles from a port. The average fishing trip lasts 4 to 10 days. As you can see the vessel and crew are on their own. In the event of an emergency or bad weather there is no place to retreat to quickly.

Because the vessel is so distant from port and the trip lasts for several days, greater attention must be paid to the safety of the crew and vessel.

#### PRESENT COAST GUARD SAFETY REQUIREMENTS

Most fishing vessels are in the category entitled "Uninspected Vessels," 46 CFR 24. The fact that most fishing vessels are uninspected does not mean that they are free of regulation. 46 CFR 24 sets forth the minimum safety standards.

The safety requirements set forth by the Coast Guard vary depending on the size of the vessel. These regulations apply to:

1. Personal floatation devices;
2. Fire extinguishers;
3. Back fire flame arrestors;
4. Ventilation of engine and fuel tank compartments;
5. Navigational rules;
6. Sound signal devices;
7. Pollution prevent equipment—oil and sewage;
8. Marine sanitational equipment;
9. Radio Communication Equipment (not mandatory).

In addition to the Coast Guard's mandatory minimum safety requirements, additional safety precautions are taken in New Bedford pursuant to the labor management agreement.

These are:

1. L.U. 59 has two full-time safety officers who have the responsibility of inspecting vessels for all safety requirements.

2. Emergency radio equipment is mandatory.

3. EPIRB's (Emergency Position Indicator Radio Beacon) are required. This is an automatic radio locator that activates where it is placed in water. It assists in locating a sinking vessel.

4. Fire alarm and bilge alarms are required on vessels.

5. The captain and mate must be qualified by Red Cross first aid and CPR courses.

6. The names of all crewmen on a vessel must be filed prior to leaving port.

7. Manning requirements are set forth: (a) crew size; (b) training; and (c) mandatory watches.

In addition to the Coast Guard Regulations and the requirements of the labor management agreement, many vessels have survival suits and personal EPIRB's for every crewman.

In many cases, the sinking or near sinking of a vessel occurs as a result of poor judgment. The vessel may be overloaded or improperly loaded. It may go out in severe weather. The skipper may take a chance and push the vessel beyond its limits.

Sometimes no one is at fault. Conditions can change very rapidly at sea. The seas can become too rough. Vessels are built to take only so much. This is one of the risks a fisherman takes.

Time is a critical factor in any rescue operation. The faster the vessel and crew are located, the greater the chances of survival. Time becomes more critical in rough seas and cold water. Rescuers lose precious time searching for the vessel and crew after they arrive in the vicinity of the emergency.

#### RECOMMENDATIONS

There are two ways to expedite the rescue operation. The first is adequate warning. Although most vessels have radios, they are not required. The sooner a distress call is made, the sooner the rescue operation begins.

We recommend that the Coast Guard require uninspected vessels to have adequate emergency radio equipment.

Secondly, we recommend that vessels be required to have EPIRB's. The radio locator directs the rescue operation to the exact position of the vessel. It also serves as a back-up if the radio fails to operate.

In that most vessels have radios, the additional expense of these recommendations is minimal compared to the increase in vessel safety.

Thank you for the opportunity to present our position. We will be glad to answer any questions the committee may have.

NATIONAL COUNCIL OF FISHING VESSEL  
SAFETY AND INSURANCE,  
Washington, D.C., October 14, 1983.

Hon. WALTER B. JONES,  
Chairman, House Subcommittee on Coast Guard and Navigation, House Office  
Building Annex II, Washington, D.C.

DEAR CHAIRMAN JONES: The National Council of Fishing Vessel Safety and Insurance is a national organization made up of representatives from the commercial fishing industry and others with mutual interests in fishing vessel safety and insurance. Since the council did not testify during the Coast Guard subcommittee's recent series of hearings on marine safety, we would like to submit the following comments which briefly describe the Council's activities for inclusion in the hearing record.

The National Council of Fishing Vessel Safety and Insurance was formed in 1978 to coordinate the development of a nation-wide program aimed at reducing not only losses of life, vessels, and equipment, but also insurance costs for the U.S. fishing industry. With membership from the major U.S. fisheries, insurance companies and others in the university and private sector, the council has provided a forum to address questions of fishing vessel safety and insurance. Since 1978, the council has published a quarterly newsletter to over 500 individual and company members. The newsletter provides information on programs relating to fishing vessel safety and insurance such as education, training, research and regional activities; informs readers about new safety products for fishing vessels; notifies members of new legislation, regulations or safety standards; and provides a forum for members to exchange information on vessel safety and insurance matter.

One of the primary objectives of the National Council on Fishing Vessel Safety and Insurance is to create an information system for reporting, evaluating and distributing statistics on fishing safety, accidents, and related topics. With the support of Federal funds awarded under the Saltonstall-Kennedy program, the council initiated a program to establish an information base on the types of injuries and accidents which occur on fishing vessels. In 1982, the Council devised a detailed Marine and Fishing Casualty Report Form in cooperation with the insurance industry to initiate its fishing vessel accident reporting system. With the Marine Index Bureau serving as the repository for data furnished by insurance companies, brokers, admiralty attorneys, adjusters, trade associations, fishermen and vessel owners, the National Council of Fishing Vessel Safety and Insurance began collecting and processing casualty data into the Bureau's computer banks. Limited, preliminary analysis of the data has been published and made available to the public through the Council's newsletter.

The National Marine Fisheries Service has continued to support the National Council's programs. This year, two proposals for financial support submitted under the Saltonstall-Kennedy program were approved by the Department of Commerce. One grant will support the production of a monthly column on vessel safety developments for use by the fishing industry trade publications. The other grant will provide continued support for the council's data gathering program on fishing vessel casualties. Completion of this survey will culminate in the identification of causes and circumstances that are associated with fishing vessel accidents. It is hoped that this information will help reduce insurance costs and lead to recommendations and guidelines to improve the safety of fishing operations.

The development and dissemination of safety recommendations complements another council effort that involves regional surveys of current vessel safety activities across the U.S. The end product would be a national catalog of what is presently available to the fishing industry in terms of vessel safety material and programs as well as a documentation of current voluntary practices that address fishing vessel safety in each region. The recommendations developed under the continuation of the Fishing Vessel Safety Program would be combined with the results of the council's regional surveys in a national seminar in 1984 where the council's findings and recommendations would be presented to congressional, Federal, and industry representatives.

The Council's activities reflect a growing national concern with fishing vessel safety issues. The House Coast Guard Subcommittee hearings on marine safety identified the need for the council and others to continue their efforts to improve the safety of fishing operations. It is the Council's goal to address the concerns that have been raised during the Subcommittee's hearings both through the continuation of its programs and in partnership with Federal, congressional and university efforts. We appreciate your interest in the safety of the fishing industry and look forward to working closely with you in the future.

Sincerely,

AUGUST FELANDO,  
*President.*

THOR J. LASSEN,  
*Executive Secretary.*

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COUNCIL OF AMERICAN-FLAG SHIP OPERATORS,  
*Washington, D.C., July 15, 1983.*

Re: H.R. 3486—The Maritime Safety Act of 1983.

HON. WALTER B. JONES,  
*Chairman, House Merchant Marine and Fisheries Committee, Cannon House Office Building, Washington, D.C.*

DEAR MR. CHAIRMAN: We understand that the Coast Guard and Navigation Subcommittee will soon hold hearings on marine safety programs, including your bill H.R. 3486, as mentioned to you in a letter on an earlier version of this bill (H.R. 7038), the CASO member companies support this legislation. H.R. 3486:

1. Places an affirmative obligation on vessel operators to submit to the Coast Guard a request for reinspection of their vessels at least 60 days before certificates of inspection expire;

2. Requires that the owner/agent/or operator of any US vessel notify the Coast Guard immediately when lack of communication or non appearance of his vessel or any other suspect circumstance indicates his vessel may be lost or imperiled. In this regard the legislation would authorize DOT to assist in the purchase and installa-



tion of satellite communication systems (to the extent that appropriations are provided); and,

3. Amends the laws dealing with the treatment of officers who might have both Federal and State licenses.

With regard to the reporting requirements of section 3, CASO members suggest that a procedure also be developed for the appropriate Coast Guard office to be notified automatically when a vessel fails to meet its USMER/AMVER reporting schedule.

With regard to the investigation authority granted the Coast Guard in section 4, we understand the licensed officers will have detailed comments for your committee. To the extent they are now known to us, we support those comments but would be pleased to give you further views after the comments have been submitted.

Sincerely,

ALBERT E. MAY,  
*Executive Vice President.*

**RADIO OFFICERS UNION**

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September 26, 1983

The Honorable Walter B. Jones  
Chairman  
Committee on Merchant Marine  
& Fisheries  
U.S. House of Representatives  
1334 Longworth House Office Building  
Washington, D.C. 20515

Dear Mr. Chairman:

You have asked that I answer nine questions concerning your bill, H.R. 3486, the Maritime Safety Act of 1983. I am pleased to offer the following replies:

Question 1:

*For the record, outline the primary uses and communication ranges of typical shipboard high and medium frequency transmitters and Morse Code systems? Also, under what circumstances might each of these communication devices fail to transmit, and how often does this occur?*

Shipboard medium frequency (MF) transmitters are of two types:

- o single-sideband radiotelephone; and,
- o manual Morse radiotelegraph.

a. RANGE OF MEDIUM FREQUENCY TRANSMITTERS

1. Radiotelephone. Single-sideband MF radiotelephones operate in the 2 MHz band of frequencies. The principal operating frequency is 2182 kHz, the international radiotelephone distress frequency. Power

levels are restricted to 150 watts. Coast Guard and FCC tests together with a technical study performed by the National Telecommunication and Information Agency have determined that the maximum effective operating range is 75 miles.

2. Radiotelegraph. Manual Morse MF radiotelegraph transmitters operate within the 410 KHz to 512 KHz band of frequencies.

Title III, Part II, Section 355 of the Communications Act of 1934, as amended, sets forth the distances over which vessels of 1600 gross tons and over must be capable of communicating. The distances are as follows: The main and reserve installations shall, when connected to the main antenna, have a minimum normal range of two hundred nautical miles and one hundred nautical miles, respectively; that is they must be capable of transmitting and receiving clearly perceptible signals from ship to ship by day and under normal conditions and circumstances over the specified ranges. Internationally agreed engineering methods have been devised to define 'clearly perceptible signals.'

If these transmitters are effectively coupled to efficient antennas constructed on sound engineering principles which were developed and perfected more than forty years ago -- designs which are now widely used to the great advantage and safety of such notable maritime nations as the Soviet Union, Japan, and many others -- the effective ranges of these transmitters are characteristically from five to six times greater than the minimum requirement specified.<sup>1/</sup> Optimum propagation conditions will extend these ranges. On the commercial coast station-to-ship link, powerful medium frequency transmitters signal ships at ranges of from two thousand to four thousand miles depending on propagation conditions.

#### b. USES OF MEDIUM FREQUENCY TRANSMITTERS

##### 1. Ship-to-Ship Radiotelegraph.

- a. Direct instantaneous automatic or manual distress alerting by alarm signal dash sequence followed by 90° transmissions. If off watch, auto alarm receiver bells summon receiving operator who then copies message on 500 KHz international distress frequency.

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<sup>1/</sup> For further details please refer to references A and B.

- b. Direct free DISTRESS (SOS) communications.
  - c. Direct free URGENCY (XXX) communications concerning life threatening situations other than vessel distress. For example, man overboard notices, requests for medical assistance, etc.
  - d. Direct free SAFETY (TTT) communications such as navigation hazard warnings, extraordinary weather warnings, icing hazards, etc.
  - e. Direct free military communications with war ships and auxiliaries of many foreign nations.
  - f. Direct free ship position determination transmissions.
  - g. Direct cheap commercial communications.
  - h. Direct free relay to coast station of any messages (including AMVER and weather messages) if assistance requested by any merchant ship.
2. Ship-to-Shore Radiotelegraph.
- a. Direct instantaneous distress alerting by manual or automatic SOS transmissions of 500 kHz international distress frequency which is guarded by world-wide, public coast station networks on a 24-hour basis.
  - b. Direct free DISTRESS (SOS) communications.
  - c. Direct free URGENCY (XXX) communications concerning life threatening situations other than vessel distress. For example, man overboard notices, requests for medical assistance, etc.
  - d. Direct free SAFETY (TTT) communications such as navigation hazard observations, extraordinary weather warnings, icing hazards, etc.
  - e. Direct free military communications with naval radio stations in many foreign nations.
  - f. Direct free daily transmission of synoptic weather reports to world-wide weather bureaus.

- g. Direct free transmission of AMVER messages.
- h. Direct cheap commercial communications.
- i. Direct free ship position determination transmissions.
- j. Direct free relay of all messages from any merchant vessel within MF radiotelegraph range upon request.

### 3. Ship-to-Ship Radiotelephone. / Ship-to-Shore Radiotelephone.

Distress alerting with this equipment is done by voice and is preceded by an automatic alarm signal which deactivates muting circuits and lights a warning indicator at the receiving station. All the several classes of communications are free except for inexpensive commercial telephone calls.

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Shipboard high frequency (HF) transmitters are of three types:

- o Manual Morse radiotelegraph
- o Automatic radiotelegraph -- communications are accomplished by a system known as Narrow-Band Direct-Printing (SITOR). Messages are automatically recorded by a teleprinter.
- o Single-sideband radiotelephone

### c. RANGE OF HIGH FREQUENCY RADIOTELEGRAPHS AND RADIOTELEPHONES

These 500 to 1000 watt transmitters operate in the exclusive international 4, 6, 8, 12, 16, and 22 MHz maritime mobile bands of the HF radio spectrum -- actually, the equipment can flexibly transmit and receive on any frequency from 2 to 25 MHz. Reliable effective communications are possible for thousands of miles 24-hours-a-day. HF radio propagation is global in nature. For example, ships in the Indian Ocean regularly communicate by Manual Morse with our public coast stations here in the United States. SITOR and single-sideband contacts are also possible.

Aiding merchant ships at sea are powerful intercommunicating coast stations throughout the world which assist each other with message relays for ships. These stations employ sensitive receivers and large high-gain directional antenna arrays which are trained on the calling ship. Such receiving equipment can pull in weak signals from any ocean area of the world.

#### d. USES OF HIGH FREQUENCY TRANSMITTERS

1. Ship-to-Ship Radiotelegraph, SITOR and Radiotelephone. HF transmitters are not normally used for any of the purposes I have listed for MF transmitters because there is no internationally agreed listening or calling frequencies. In practice it has been found that there is no need for such a frequency. However, ships at extreme MF ranges often agree to shift to HF for improved long distance communications.

2. Ship-to-Shore Radiotelegraph, SITOR and Radiotelephone. In general, HF transmitters can be used on the HF bands for most of the purposes that I have listed for MF transmitters except that distress alerting is by manual means on all bands other than the 8 Mhz band where automatic alerting can be done with the ships survival craft hand-powered radiotelegraph transceiver. Also, this transceiver alternately and automatically alerts on 500 KHz MF. Both frequencies can be manually keyed for normal communications.

#### e. FAILURE TO TRANSMIT

1. MF and HF transmitters may fail to transmit as the result of an opened or shorted vacuum tube, transistor, capacitor, inductor, switch, or other component. A resistor may open, short, or change value. Insulation may fail causing arcing, shorts, etc.

2. Transmitters may also fail to transmit for the following important reasons:

- Loss of ship's generators. In this case, communications are restored by shifting to reserve storage battery power.
- Damage to ship's main antenna. Merchant ships are fitted with both a main and a reserve antenna. If the main antenna is suddenly disabled by storm, collision, or for other reasons, communications can be quickly restored by use of the reserve antenna.
- Spare parts related causes. Should MF or HF equipment fail, it can be repaired by the Radio Officer using specific spare parts, tools, testing equipment, instruction books, and circuit diagrams provided by law.

f. HOW OFTEN DO FAILURES OCCUR?

Failure rates for radiotelegraph equipment are low, for single-sideband and SITOR moderately high, while SATCOM failure rates are the highest. The reason why MF/HF telegraph equipment failure rates are low is due primarily to the basic factors of simplicity of design, rugged construction, and relatively low operating frequencies. A discussion follows:

1. Simplicity of Design. Shipboard telegraph equipment is the epitome of electronic simplicity. After all, it was the first means of radio communication invented and its basic design has required little change. Telegraph equipment construction plans are listed as 'beginners projects' in amateur radio books. As boys, most of our radio officer members have constructed and communicated for thousands of miles by Morse with these kitchen table projects made from a shoe box of simple and inexpensive parts.

2. Rugged Construction. Rugged construction principles and techniques were developed from the experience of two world wars. Ship radios had to have a reasonable chance of operational readiness after a ship suffered torpedoing. Remember too, there was no air conditioning on ships in those days. Essential ship communications equipment is still built in view of this hard won experience.

All circuit components are over-rated where necessary to insure reliability over long periods of time and adverse operating conditions. For example, a telegraph transmitter's final amplifier tube may be rated by its manufacturer to be capable of handling 200 watts of power, but it will only be given the job of handling 100 watts in a marine telegraph transmitter. If 200 watt power levels are needed, two tubes will be connected in a parallel configuration to produce a highly dependable combination. The same is done for transistors. Thus, if normal operating or environmental conditions are exceeded, the equipment can still function normally until corrections can be made.

3. Low Operating Frequencies. Low operating frequencies easily permit high stability in frequency generating components of MF and HF communications equipment. Operating frequencies of marine radios are determined by oscillators employing quartz crystals in tuned circuits. These tuned circuits exhibit unique amounts of electrical capacitance and inductance. Both the quartz crystal and the capacitor and the inductor are physically quite large. These three key components are subject to the environmental effects of heat and cold. They expand and contract. As they expand and contract physically, their electrical properties correspondingly change which causes a slight shift in the operating frequency of the radio. Physical movement of the components such as may be caused by ship vibrations will also shift the frequency.

For MF and HF equipment these undesirable vibrations and temperature caused variations in frequency are easily controlled because the components themselves are physically large. Slight physical expansion causes only a slight change in electrical properties and a correspondingly slight shift in operating frequency.

The next immutable law of physics for this discussion is that as an oscillator's frequency increases so must the physical size of its components decrease. This law must be viewed in light of the fact that the ship's MF/HF equipment only operates as high as 27 million Hertz but it's SATCOM operates in the 1,500 million Hertz range! Thus, while a few thousands of an inch of physical movement or heat caused expansion in the frequency determining components for MF/HF ship equipment is negligible, the same slight changes in the miniature tuned circuits and other components of a ship satellite terminal correspond to thousands of cycles of shift in various operating frequencies of the ship earth terminal which can render it useless. This essentially negligible problem of MF/HF marine equipment is the absolute bugbear for SATCOM.

#### Question II:

*I would like you to state your position on section 3 of my bill, H.R. 3486, which in part requires 'that the master of a vessel report to the owner every 48 hours. Specifically, I would like to know how this requirement is likely to be complied with by ships outfitted with only conventional radio communications equipment versus ships also outfitted with INMARSAT terminals.*

#### a. MASTER TO REPORT EVERY 48 HOURS

I think that it is highly desirable that ship masters be required to report to their companies every 48 hours. Since there is now a corresponding requirement for mandatory reports to AMVER, administrative procedures might be adopted to urge staggering the filing times of the two types of messages. In this way, contacts with the ship will tend to be spread out which would in effect provide more frequent contacts. Masters should be given a simple guide showing predicted delivery times to be expected for the various radio services available. Masters should also be given sufficient flexibility to file messages based on estimated positions and arrival times. This is desirable in order to work more closely within the confines of the Radio Officer's routine watch hours and to allow sufficient time to transmit all



messages before arriving in port. Most countries forbid the in-port use of INMARSAT and other long range transmitting equipment.

b. COMPLIANCE BY CONVENTIONAL RADIO EQUIPMENT

As indicated in the Coast Guard's recent AMVER BULLETIN No. 2/1983, there are now 120 commercial and government coast stations strategically located throughout the world which relay AMVER messages to our Coast Guard centers free of charge. There are several times this many commercial stations engaged in the business of delivering the Master's 48 hour report to his company. In addition to Manual Morse, many now employ various high technology communications methods for shipping such as automatic band scanning, automatic narrow-band direct-printing (SIMOR) telex systems and large computer controlled international message routing networks to name but a few. Expedient delivery of both kinds of messages is now possible by means of interconnecting networks of terrestrial radio, submarine cable, and satellite communications.

c. COMPLIANCE BY CONVENTIONAL RADIO AND ALSO INMARSAT.

The required messages can also be sent by INMARSAT. That is obvious (assuming telegraph equipment is available should INMARSAT fail) but the question arises: Is it necessary? There are presently billions of dollars worth of plant, equipment and skilled personnel stationed throughout the world which stand ready to serve our ships and, as we have noted, international communication networks already employ satellite communications to aid in the process. Is it reasonable to spend 10 million dollars now -- and this just the beginning -- in a costly and rather vainglorious attempt to duplicate the system?

In my testimony to this bill I have alluded to our huge public debt and the ever increasing need for economy. We must spend only for need and for only those needs which are pressing needs. In my judgment, based on the improved facilities available today, there is not a genuine need for additional INMARSAT equipment on our merchant ships.

While on the subject of economy, we should consider for a minute the subject of high technology. One can hardly read a American newspaper or magazine nowadays without finding an article on high technology. Each regime brings with it a new set of catchwords, for this one, it's "high technology." Not to worry, high technology is going to solve all our problems. Of course high technology holds promise for Americans and high technology is already helping us in many ways. But does it mean that low technology and medium technology are no longer useful to mankind?

We have heard the familiar lamentation that less than 4 percent of U.S. imports and exports and less than 2 percent of essential strategic materials presently are carried by U.S.-flag ships. Each maritime day speech repeats this all too familiar refrain. Frankly, I am quite tired of hearing this lament and even a little angry when I consider how it applies to radio communications costs for American ships. I say this because I know for a fact that the Chinese, the Greeks, and numerous other cross-traders who get the lion's share of the other 96 percent of our cargo do not have SATCOM, do not have SIGR, and usually do not have much in the way of single-sideband radiotelephone. According to INMARSAT's own data compiled March 1, 1983, the Chinese have only 1 general cargo vessel fitted with a ship earth terminal. Only 19 Greek ships are fitted with INMARSAT -- 8 bulkers, 8 tankers and 2 passenger ships. Of all the thousands of Greek general cargo vessels roaming the world there is precisely 1 fitted with SATCOM. This statistic alone ought to tell us something about high technology and cost effective communications for merchant ships. While MARAD has spent several million on SATCOM studies alone and Congress ponders another 10 million in SATCOM give-aways, the Greeks tap on their telegraph keys, haul most of our cargo, and export our money to their banks.

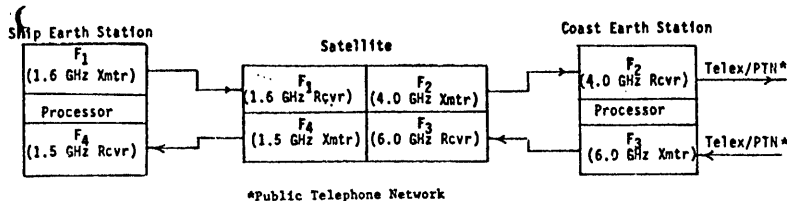
By keen experience the wily Greeks have learned that one way to undercut the competition is by utilizing low-cost, dependable medium technology of all kinds and particularly staying away from high technology communications equipment with its inherent high maintenance costs. Knowing the true costs of this equipment, they would look this INMARSAT giffhorse in the mouth.

#### QUESTION III:

*One of the supposed national defense features of INMARSAT communication systems is that a secure connection can be made, effectively excluding outside parties from listening in on transmissions. What types of conventional radio communication systems have this feature?*

The answer to this question is that no types of conventional radios, including INMARSAT radios, have this feature. HF signals depend on reflection from the earth's ionosphere for propagation but INMARSAT radios operate far above the HF band. Transmission of INMARSAT signals is only by a line-of-sight path. All the satellite does in the INMARSAT system is to act as a high relay point to avoid the signal being blocked by the curvature of the earth, the signals themselves are essentially no different from thousands of others being transmitted from microwave towers and mountain tops all over the world.

Here is the basic frequency line up for INMARSAT:



#### Ship-to-shore/shore-to-ship communications set-up

To listen in on any of these frequencies, all that is required is a small dish antenna and a receiver that will tune to them. Who has this equipment? The village ham for one. He either builds it in his basement or simply buys it off the shelf. AMSAT, Amateur Radio Satellite's newly orbited L-Mode satellite, operates in the same band of frequencies as INMARSAT. In reality anyone with determination can acquire the necessary equipment and can listen in on INMARSAT communications. However, this is rather an elementary point. We must move on to something less prosaic -- ship ID coding.

As may be seen from reading Reference C provided to you, setting up a vessel's proper identification number in the INMARSAT terminal is a simple task. It follows that setting up an improper number is also a simple task. It is just a matter of time -- perhaps it is already being done -- before INMARSAT customers begin receiving bills for calls they did not make. INMARSAT charges are exorbitant (\$10 per minute with a 3-minute minimum) which naturally encourages people to seek ways of "getting even with the system."

We need not concern ourselves unduly with INMARSAT's potential billing problems, but the business of tampering with ID headers has very serious implications for MARAD's national defense assumptions regarding INMARSAT communications security. What is to stop terrorists, Russians, and this sort of people from sending or receiving bogus communications from terminals with false ID's. These messages could easily result in disaster for one of our ships loaded with defense cargo for some sensitive region of the world.

Secure communications for INMARSAT, just as for conventional radio, is only possible by means of cryptography. The fact that INMARSAT is certainly not a secure communications method is really of little consequence. What is of consequence, however, is that ship captains believe this myth about INMARSAT's supposedly secure communications and may do harm by speaking too freely over INMARSAT in the mistaken belief that it is a secure system.

Why has MARAD not informed the maritime community about the insecurity of INMARSAT communications? If they have already done so, we must say their efforts have been almost totally ineffective.

#### QUESTION IV:

*If the INMARSAT system is unreliable, as you have testified, why is the use of these systems encouraged by the Maritime Administration; why are INMARSAT terminals the central component of the International Maritime Organization's proposed maritime distress system; and why have over one-thousand and eight hundred INMARSAT terminals been purchased and installed on vessels all over the world?*

#### a. WHY IS USE OF INMARSAT ENCOURAGED BY MARAD?

The answer to this question is essentially historical. The stage was set for MARAD by the Russians in 1957. Up went Sputnik and down came the gauntlet. To meet the challenge ComSat was born and soon, with unlimited support from Congress and literally the entire defense establishment, the U.S. had a first generation naval satellite communications system. In the space of a few years, our Navy and the British Navy, who were given use of the system, moved on to higher ground militarily with a much more sophisticated second generation of more secure naval communications satellites.

ComSat was then faced with a dilemma -- how to get revenues from three exceedingly expensive but rather rudimentary, and by now middle-aged, satellites. Merchant ships -- ComSat thought merchant ships would surely keep their transponders humming and MARISAT was quickly launched with much fanfare. But, nothing much happened. Not many merchant ships signed up and it was about this time that MARAD entered the scene.

An extensive and grossly expensive study was conducted by MARAD to promote the use of satellite communications for the merchant marine. MARISAT terminals were even given outright to shipowners on longterm loans if they would but try them. This study was followed by another

expensive MARAD study to see if MARISAT would work on our river tow-boats. Many millions were spent on these two studies. In spite of MARAD's studies, give away programs, and ComSat's vigorous publicity campaigns, MARISAT's list of paying customers grew, but at a lackluster pace. Something more compelling was needed to drive up revenues and it was needed soon. The lifespan of this early generation of satellites was only seven to nine years and ComSat's investment was seen to be depreciating rapidly. A lot of money would soon be needed to replace ComSat's evanescent property. But what to do? MARISAT's middling performance would certainly not float an investment decision by ComSat's shareholders. SOLAS -- the notion that Safety of Life at Sea with mandatory SATCOM usage was hit upon. Member governments would see to it that the necessary rules and regulations for this would appear and, of course, a club of nations would each be required to pay only a small portion of the otherwise unbearable satellite replacement costs which MARISAT revenues could not even begin to provide. INMARSAT was born and with marvelous skill, ComSat got out from under all but 23.3 percent of a very unattractive investment. But further problems developed in that IMO was ultimately not forthcoming with the longed for mandatory INMARSAT carriage requirements. At IMO, shipowners still had some clout and refused to pick up the INMARSAT tab.

Through all this development direct government involvement has been necessary, and because it has been necessary, there has been the inevitable establishment and entrenchment of bureaucracy. The "conventional wisdom" of SATCOM, which had its birth at MARAD, has now reached full maturity. MARAD must jealously guard its expensive promotional studies and not be proven wrong. INMARSAT terminals are not suitable for SOLAS purposes for a number of reasons nor are they suitable for national defense for still more numerous reasons, but still the idea persists. For MARAD's bureaucracy, for its advocates within other agencies, it is professionally better to be associated with highly respectable error than newly established truth.

Only the march of events changes the conventional wisdom. Not rational arguments, particularly arguments based on a priori reasoning. For example, all the world knows, and so does every schoolboy who has read this month's issue of the National Geographic Magazine, that an INMARSAT satellite can be knocked out by Russian "killer satellites" with consummate ease. INMARSAT satellites are not radiation hardened against nuclear blasts, and I think it is safe to say they do not evasively gyrate around in space to out maneuver the Russian hunter killers as the military ones do. As the world gets more used to the idea of hostilities in space, destroying an INMARSAT satellite will probably be accorded no more concern than the sacking of an embassy today -- maybe less since no lives are involved.

Be that as it may, MARA<sup>n</sup> is not going to change their minds until someone knocks one of these satellites down and the fragments of it land on their roof. This might be accomplished not by the Russians, but simply by some deranged technical type who gets a kick out of tinkering around with his "homebrew" transmitter on the MARISAT or European MARECS telemetry control frequencies.

In addition to these vulnerabilities, we must keep in mind the following:

- The necessity of the INMARSAT terminal to transmit continuously as it receives an incoming message which enables aerial direction finding. This possibility is inevitable if messages are to be sent to an INMARSAT equipped ship.
- The two INMARSAT calling channels in the satellites may be easily jammed by rapid incessant requests for channel bursts.
- Easily altered INMARSAT ship identification codes permit misrouting and falsification of vital communications.
- No back-up on station for Pacific INMARSAT satellite.
- No replacements ready or are standby on station satellites economically feasible for the new MARECS units when the old MARISAT satellites soon fail.
- No INMARSAT coverage for thousands of square miles in the Pacific.
- Over susceptibility to breakdowns.
- No specific spare parts, tools, testing equipment instruction books, and circuit diagrams on SATCOM equipped vessels which are provided by law.

- Spare parts lacking in most foreign ports.
- Inordinately high maintenance costs. Several thousand dollars commonly charged for many repairs.
- Backup reserve battery installation not fully effective -- does not power ship's gyrocompass which provides antenna pointing information to the INMARSAT terminal.
- INMARSAT does not work in rough seas. Does not compensate for more than 10 degree pitch, 30 degree roll, and this only under slow roll or pitch conditions.
- Not fitted with emergency antenna as in case of telegraph equipment. If antenna is damaged, set is useless.
- Equipment costs are high -- 50 thousand and up.
- Installation costs are high -- 30 and 33 thousand respectively, on two recent oil tanker fittings.
- Spares costs are high -- 20 thousand. Only provided reasonable assurance of one mode restoration -- telex or telephone.
- Possibility of interrupted communications in a collision situation due to shading of the directional SATCOM dish antenna by the other vessel.
- SATCOM antenna does not depress below the horizontal plane. If vessel should list due to grounding or cargo shift, communications will be cut unless vessel is directly below the satellite's position in space.

Finally, no event yet discussed should do more to alter the conventional wisdom at MARAD than this all ships announcement by INMARSAT on August 26.

TO : ALL SHIPS AOR  
 FM : INMARSAT CCC  
 26 AUG 1983  
 REF : SERVICE ANNOUNCEMENT NO. AOR 341  
 SUBJECT: SYSTEM INTERFERENCE

DAMAGING INTERFERENCE IS CURRENTLY BEING GENERATED BY AN UNIDENTIFIED SHIP LARIN STATION IN THE ATLANTIC OCEAN REGION. THE COOPERATION OF ALL SHIPS IS REQUESTED IN THE FOLLOWING ACTION WHICH MAY SOLVE THIS PROBLEM. IN ORDER TO MINIMIZE OVERLOADING OF THE NOS EQUIPMENT RADIO OFFICERS ARE REQUESTED TO WAIT FIFTEEN 5 TO 35 MINUTES AFTER RECEIPT OF THIS MESSAGE THEN SEND THE PLEASEST REQUEST FROM YOUR SHIP LARIN STATION. SHOULD MALFUNCTION OF YOUR TERMINAL BE SUSPECTED YOU ARE REQUESTED TO CONTACT SOUTHURY OR COONHILL LARIN STATION. THANK YOU FOR YOUR ASSISTANCE.  
 REGARDS, INMARSAT CCC

INMARSAT OPLR ATL  
 TOT: 1545Z / 25 AUGUST 1983/JFV

Here we have an intermittently malfunctioning ship terminal ruining communications for the entire Atlantic Ocean region. With conventional radio this problem would simply be countered by tuning to another of an almost unlimited choice of alternate frequencies, but with INMARSAT all ships must funnel their traffic through a single device with only two calling channels. Even if there were ten calling channels, the satellite would still be vulnerable to both unwitting or deliberate interference.

I cannot see how MARAD can go on promoting INMARSAT terminals for the safety of seamen or defense of the nation when a message such as this provides palpable proof of the unreliability and built-in vulnerability of the INMARSAT system.

Instead of conducting studies to promote SATCOM as in the past, MARAD ought to be conducting studies to reveal its dangers.



b. WHY ARE INMARSAT TERMINALS THE CENTRAL COMPONENT OF THE INTERNATIONAL MARITIME ORGANIZATION'S PROPOSED MARITIME DISTRESS SYSTEM?

The stated purpose of IMO's Future Global Maritime Distress and Safety System (FGMDSS) is to provide a new system which, if it is to be adopted, must be superior to the existing system. At IMO's twenty-fifth session, and after several years of careful evaluation, IMO formally declared INMARSAT terminals to be unnecessary to achieve IMO's goals. INMARSAT terminals were then designated optional equipment. If INMARSAT terminals were to be the central component of the FGMDSS, wouldn't IMO have made their fitting mandatory?

The only mandatory satellite equipment, i.e., the central SATCOM component of the FGMDSS, is the operate-on-board and/or float-free beacon known as the Electronic Position Indicating Radio Beacon (EPIRB). These EPIRB's are absolutely necessary in the new system. Even if SATCOM terminals were mandatory for the FGMDSS the type available today will not be suitable for use in the future system. Qualifications for this equipment are only just now being discussed at IMO. Several years will be required before the IMO's Subcommittee on Radio Communications promulgates the results of its working group on Performance Standards for INMARSAT equipment. It is important that Congress not lose sight of this important fact.

IMO's December 1982 decision appears to have been extremely disappointing to the entire ship satellite communications industry and their supporters within various governments. Since manufacturers are selling their equipment and services at artificially low prices, we foresee a shakeout in their industry followed by increased prices; not a decrease as some advocates proclaim. Knowledgeable European opinion from several quarters supports this view. Personally, I think it advisable for Congress to be on guard in this kind of business climate for the industry.

In an unsuccessful bid by Communications Satellite Corporation to charge off INMARSAT losses against profitable INTELSAT business, the FCC received the following letter which appears as a footnote in CC Hocket No. 79-35/FCC 82-375 31731:2/

FOOTNOTE 18:

Letter to Chief, Common Carrier Bureau, from William H. Rerman, Vice President and General Counsel, Communications Satellite Corporation; July 17, 1980. That letter has been made a part of the record in this proceeding. The letter included an internal memorandum containing a hypothetical analysis concluding that its new proposal would have a minimal impact on Comsat's INTELSAT business. In support, the memorandum offers a worldwide maritime satellite traffic forecast based on Comsat's experience in providing maritime satellite services through the MARSAT program. According to the memorandum, the financial implications of the projections contained therein show Comsat's "...share of the after-tax losses accumulating to over \$17 million in the period 1980-1988." Comsat stated that "...while the first year of profitability is estimated to be 1988, it is speculative to project when thereafter, even on a year-by-year basis, INMARSAT will provide an acceptable return." Comsat further stated that "these results will be in return for a gross investment by COMSAT of almost \$100 million", and concluded that "clearly these are not the characteristics of a venture that prudent business people with a responsibility to shareholders can willingly pursue; further action is both required and appropriate."

In light of economic facts such as these which often result in intense, sometimes desperate, measures to survive, I urge Congress to closely examine the motives for all proposals dealing with satellite or terrestrial communications for merchant ships.

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2/ COMSAT variously reported these losses to be 39.7 million, 17 million, and 10.2 million.

c. WHY HAVE OVER ONE-THOUSAND AND EIGHT HUNDRED INMARSAT TERMINALS BEEN PURCHASED AND INSTALLED ON VESSELS ALL OVER THE WORLD?

It should be noted that not all the 1,800 vessels you mention are actually seagoing vessels. Many are stationary oil rigs, barges, yachts and so on. My latest INMARSAT information, dated March 1, 1983, shows a total of 1,643 terminals in operation. Of the total, only 1,040 were actually installed on bulk/ore carriers, container ships, tankers and gas carriers, general cargo vessels and passenger ships. According to the International Telecommunications Union's "List of Ship Stations" there are 70,500 ships open to public correspondence. When viewed in this light INMARSAT's subscribers are not very numerous.

As I have alluded in answer to your Question IV(a), INMARSAT subscribership is now almost totally a matter of government fiat. Telecommunications are owned and operated exclusively by the government in almost all foreign countries while the merchant fleets of the majority of these countries are also "national fleets" controlled by the government. Even with a tiny stake in INMARSAT's present losses, INMARSAT delegates from these countries will press very hard to have their national fleets sign up. Thus, good money is thrown after bad and avenues of government waste and largesse will remain open.

A classic example of this appears on page 312 of the aforementioned September issue of National Geographic Magazine. Here we have the captain of a government vessel, a British lighthouse tender, extolling the merits of INMARSAT. Cdr. T.A. Catesby finds this exceedingly expensive INMARSAT terminal very useful as he puts around to light-houses delivering groceries and mail. Never mind that he should constantly be within range of inexpensive VHF or MF terrestrial coast stations. To make matters worse, Her Majesty's Government has fitted its tender with a terminal made in Japan as the picture shows.

There will be a surge of INMARSAT installations over the next year or two as fledgling bureaucracies around the world cover their positions, but in time sales will begin to flag as INMARSAT's true costs and failings become evident.

**QUESTION V:**

*It seems to me that we should find out exactly, the degree to which currently operating INMARSAT ship terminals actually experience loss of communications -- for whatever reason. Who would represent the most accurate source for this type of information: equipment manufacturers; FCC; Maritime Industry Associations; INMARSAT? Do you have any thoughts on this?*

Your suggested sources would seem to present a dilemma of sorts. In each case, the wolf would be asked to count the sheep. I think that the organizations suggested would not provide any meaningful or trustworthy data for the following reasons:

**a. EQUIPMENT MANUFACTURERS**

Manufacturers know what causes GATCOM terminals to fail and I would suppose that they have considered these weak points very carefully; however, corrections are primarily based upon manufacturing costs and marketplace considerations, not upon Federal or IMO performance standards for safety since none exist. All we have at this point are recommendations from INMARSAT plus their type approval requirements designed to insure that manufacturers build equipment which will adequately function through the satellites and ground stations and not harm the integrity of the system.

Manufacturers are going to argue forcefully that any problems worth mentioning have already been taken care of. I think we can be sure they will have no records to offer which would cast doubts on the performance of the INMARSAT system or ship earth terminals.

**b. THE FCC**

Other than the data which we have given them, I do not know what information they have which would shed light on this problem other than that discussed under my answer to your Question VIII. As we have suggested, the information gathered is apt to be biased.

**c. MARITIME INDUSTRY ASSOCIATIONS**

Here again you have conflict of interest problems. These associations have been formed to promote the interests of shipowners. They are certainly not going to provide information which would be detrimental to the GATCOM provisions of your bill.

d. INMARSAT

INMARSAT is interested in promoting INMARSAT. I cannot imagine them furnishing any significant information. All shortcomings of the system are cloaked in a facade of jaunty self-assurance designed to promote the idea that SATCOM is safe for seamen to stake their lives on. Only occasionally must the cat get out of the bag. When this happens, INMARSAT must go public as in the example furnished in answer to your Question IV(a), which I reprint below.

TO : ALL SHIPS AOR  
 FM : INMARSAT CCC  
 26 AUG 1983  
 REF : SERVICE ANNOUNCEMENT NO. AOR 241  
 SUBJECT: SYSTEM INTERFERENCE

DAMAGING INTERFERENCE IS CURRENTLY BEING GENERATED BY AN UNIDENTIFIED SHIP EARTH STATION IN THE ATLANTIC OCEAN REGION. THE COOPERATION OF ALL SHIPS IS REQUESTED IN THE FOLLOWING ACTION WHICH MAY SOLVE THIS PROBLEM. IN ORDER TO MINIMIZE OVERLOADING OF THE NO3 EQUIPMENT RADIO OFFICERS ARE REQUESTED TO WAIT BETWEEN 5 TO 30 MINUTS AFTER RECEIPT OF THIS MESSAGE THEN SEND THE RELEASE REQUEST FROM YOUR SHIP EARTH STATION. SHOULD MALFUNCTION OF YOUR TERMINAL BE SUSPECTED YOU ARE REQUESTED TO CONTACT SOUTHURY OR DOONHILL EARTH STATION. THANK YOU FOR YOUR ASSISTANCE.  
 REGARDS, INMARSAT CCC

INMARSAT OPER ATL  
 TOT: 1545Z / 26 AUGUST 1983/JFV

In sum, each of these organizations or categories of organizations, has something at stake. They are either struggling for economic survival, supporting their benefactors, or in the case of the FCC, shoring up some policy laid down by other agencies as referred to in my answer to your Question VIII.

We, of course, will continue to gather data on the INMARSAT system and on the equipment operating into it. We also have the dangerous 500 KHz antenna problem to deal with. As daily operators and maintenance technicians of this equipment, we feel particularly well qualified to offer our skills and experience toward solving these and other serious problems which may arise. We do feel, however, that there is a need, as Mr. C.F. DeFries, of the MERA suggested in his August 2 testimony, for a free and independent ship inspection organization. In the case of marine electronics (both

communications and navigation) such an organization could freely and independently inspect this equipment "by the book" without pressures from the State Department, the FCC, National Telecommunications and Information Agency, Coast Guard, et cetera. Such an organization could be relied upon to conduct meaningful tests and inspections of all ships electronics equipment, perform independent studies, and otherwise be in a position to provide the unbiased information which you seek.

#### QUESTION VI

*I understand that there is an indication that below deck satellite communications equipment can fail due to temperature changes. For instance, if a vessel's air conditioning fails, this may result in disrupted communications. Would you like to comment on this?*

This is correct. We have noted several accounts of this. The most recent was on board the Military Sealift Command tanker USNS SPALIFT ANTARCTIC. I have included Radio Officer W.D. Ridout's account of this and other serious SATCOM failures as Reference 7. Please read it carefully. You will see a few of the many problems our men are faced with daily.

It is noteworthy to mention that modern ships no longer have port holes or windows that open. When the air conditioning fails in some place like the Red Sea, temperatures can quickly soar to 120 degrees. This condition is helped along by all the heat generated by other electronic equipment in the radio room and by heat generating equipment elsewhere in the ship.

Please keep in mind my remarks in answer to your Question 1(f) and place them in context with a ship's radio room at 120 degrees, or even 90 degrees. SATCOM's computer technology just cannot consistently hack it in this sort of environment. The TMI module, for example, is the frequency standard for the entire satellite terminal. The frequency tolerance for this device is plus/minus 6 cycles at a frequency of 50 million cps. The terminal will not work if this tolerance is exceeded as is often the case. To maintain this tolerance and other tolerances in the set, a great deal of complicated circuitry is required which is then itself subject to failure.

Again, simplicity of design is the answer for improved reliability of all ship's equipment -- not just communications equipment.

QUESTION VII:

*Can you tell us what actual evidence there is at this time which indicates that INMARSAT ship terminals may be a real safety hazard due to ionizing radiation?*

Please refer to the Comment of the Radio Officers Union to FCC General Rocket No. 79-144, Biological Effects of Radiofrequency Radiation furnished to you as Reference F. This work, together with the Commission's Notice of Proposed Rule Making which is also provided you, outlines the disparity in officially established maximum exposure levels and methods for measuring those levels. We have described situations which we feel could possibly lead to harmful RATCOM radiation exposure. We have provided a picture (I add a few more with this correspondence) of an installation which we feel is potentially hazardous. In this document as well as in my testimony before your Committee, I stated that we felt that only some installations were dangerous. We are of the opinion that RATCOM antennas mounted atop masts high above a ship's upper most deck and not operated in port are essentially harmless to seamen. Access can more easily be controlled to these masts and power can be shut off before going aloft.

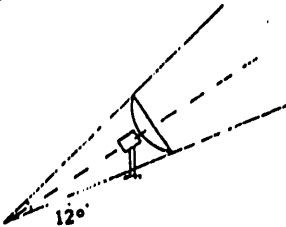
I have no injured seamen to present to you, but in this connection it must be borne in mind that harm from ionizing radiofrequency radiation may not immediately manifest itself. More biological testing must be done as is commonly recognized. This is why I urge in the meantime that the FCC prohibit in port operation and establish installation regulations which would insure that RATCOM antennas are placed on high masts above a ship's upper most deck.

The following excerpt from the INMARSAT Ship Earth Station Design and Installation Guidelines submitted to IMO March 24, 1983, speaks for itself and appears on the following page.

# Installation Guidelines

## 1 Antenna Locations

Preferably, the antenna should be located high enough and in such a position that no obstacles appear in all azimuth directions down to zero degrees elevation. This means that there should be no obstacles within the main beam of the antenna, which can be considered as a  $12^\circ$  included angle cone emanating from the perimeter of the antenna reflector (as shown below).



In practice, the presence of some metallic objects in the propagation path between the antenna and the satellite is difficult to avoid for all azimuth directions. Preferably, all obstructions within 3m of the antenna should be avoided. In general obstructions less than 15 cm in diameter can be ignored beyond this distance.

Particular directions, which result in obstruction of the main beam of the antenna, should be recorded and retained with the ship. This will enable a prediction of particular ship's locations and headings where degradation in performance may be expected.

### Minimum Distance from Other Antennae

The above deck equipment (ADE) should be separated as far as possible from the HF antenna, and preferably by at least 5m from the antennae of other communication or navigation equipment, such as the antenna of the satellite navigator or the VHF antenna.

Locations at the same level as the ship's radar antenna should be avoided.

### Other General Precautions

Avoid locations:

- i such that ship personnel may be exposed to hazardous radiation;
- ii near to the funnel or other locations, subject to much dust and smoke, since contamination of the radome may result in signal degradation;
- iii where the antenna might be exposed to extremely high temperatures;
- iv affected by severe vibration and shock;
- v near to loading points of hazardous liquids or gases in view of explosion hazards.

Avoid in particular those locations affected by continuous vibration induced by engine/propeller vibrations whilst at sea.



QUESTION VIII:

*In March of 1988, the radio officers union submitted comments to the Federal Communications Commission, regarding INMARSAT satellites. You concluded that due to questionable reliability of INMARSAT terminals the FCC should undertake a special inquiry of these systems. What was the FCC's response to this request? (Note: RNI comments were submitted on March 28, 1988; in response to FCC general docket no. 88-341).*

FCC's response was to rule against improved safety requirements. On a sampling basis only, they have decided to conduct interviews with captains of INMARSAT equipped vessels to learn their opinions as to the performance of this equipment. Paragraphs 14. and 15. of their Final Rule 3/ covers these points as follows:

14. We have reviewed those comments carefully keeping in mind that our scope in this proceeding is to consider whether the environmental specifications that are currently suggested by the INMARSAT Organization would enhance the reliability of distress communications in those vessels that are presently equipped with ship earth stations at the option of the ship owners. We have concluded that the arguments presented by AFL-CIO regarding FCMDBS and the exemption from the radiotelegraph requirements are not directly related to this issue. Nevertheless, the Commission, NTIA and the Department of State reviewed all the comments filed on this issue. It was noted that stringent environmental specifications would increase the equipment cost unnecessarily for vessels whose travels are limited to global areas where the prevailing climatic and weather conditions are not severe. It was also observed that a great disparity exists on the issue among the participants in this proceeding. Moreover, the United States Signatory has been previously instructed to oppose the "mandatory" imposition of the INMARSAT environmental specifications. Thus, based on this joint review, we have determined that the INMARSAT

environmental specifications should be retained on a "recommended" basis in the United States. We reiterate that the equipment is optional aboard vessels and our decision in no way affects normal distress communications.<sup>14</sup>

15. The Commission, however, is concerned about the reliable operation of the INMARSAT ship earth stations during adverse environmental conditions. Accordingly, the staff of the Field Operations Bureau will conduct a survey on a sampling basis during normal compulsory radio inspections. In the survey the master of the ship will be interviewed as to his or her opinion regarding the INMARSAT ship earth station performance under varying environmental conditions, with special attention to the performance of the antenna and its associated mechanical and servo equipment. This information will be evaluated to determine whether a problem exists, due to the "recommended" status of the environmental specifications.

<sup>14</sup>United States vessels are required by law to maintain certain primary communications systems for safety purposes. See 47 U.S.C. §§1-102, 48 CFR 77.15-1 (Coast Guard Regulations). These requirements apply whether or not vessels are equipped with ship earth stations as an additional communications system.

1/ A complete copy of this Ruling is furnished as Reference P.

Our reaction to this Ruling coincides with Commissioner Rivera's Statement of Dissent.

**Statement of Commissioner Henry M. Rivera  
Dissenting in Part**

**Re: In the Matter of Amendment of Part 83 of  
the Commission's Rules to Conform with  
the International Maritime Satellite  
(INMARSAT) Requirements**

The majority's position is that compliance with environmental specifications for INMARSAT ship facilities should be on a voluntary basis. "I disagree. This decision represents a potentially destructive deviation to the marketplace. Both the existence of countervailing motives and the reality of ship mobility" convinces me that, in this case, reliance on the marketplace is misplaced, has unacceptable and unnecessary risks with potentially disastrous consequences, deviates from this Commission's previously unwavering approach to safety of life at sea and abandons our responsibilities under Section 3 of the Communications Act. "The majority recognizes these shortcomings and attempts to rectify them by instituting a procedure to assess the environmental readiness of vessels on a random basis. Such a survey will be of questionable effectiveness and is likely to increase the Commission's administrative burdens and the drain its limited resources. See paragraph 15. It also indicates the majority's apparent discomfort with its marketplace decision. I dissent.

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" See paragraph 14.

" A ship may be put in service in a tropical climate and its INMARSAT facilities unmodified to meet the requirements for that climate. But there is nothing to prevent that same ship from later being in service in an arctic climate where its INMARSAT facilities would not be environmentally suitable and accordingly, might pose a serious safety risk.

" I cannot support this relaxed approach where safety of life is a factor. This is particularly true (1) if the cost increases associated with mandatory compliance would be minimal, as the record indicates in the comments of Scientific Atlanta, Inc., which is the only unrefuted quantification of the cost associated with mandatory compliance and (2) inasmuch as we have stated our belief that conformance with the INMARSAT environmental requirements enhances the reliability of maritime mobile-satellite communications during distress situations. See paragraph 5.

Furthermore, we take issue with the Commission's remark that our statements regarding "FIMMSR and the exemption from the radiotelegraph requirements are not directly related to this issue." Their last sentence statement at 14., and its Footnote (14) are absolutely invalid should a vessel fit with mandated equipment as per 47 CFR Section 83.400(C) of the Commission's Rules for telegraph exempt ships on coastwise voyages. In this case, INMARSAT terminals are an indispensable element of the vessel's distress system.

Also brought to light is the fact that the Commission is not in a position to make free and independent decisions regarding communications equipment for merchant ships. Nothing can be done without instructions from the Department of State or the National Telecommunications and Information Agency. In unique juxtaposition to this decision making process affecting the safety of seamen is the "United States Signatory" which is to say, Communications Satellite Corporation. ComSat has monopolistic powers granted by Congress, a subsidiary which manufactures INMARSAT terminals for ships, and a 23.3 percent ownership of INMARSAT itself. Thus, we have a situation rife with conflicts of interest and a Commission destructively devoted to the marketplace. We may be sure that the United States Signatory will continue to be "instructed" to oppose all safety improvements which drive up manufacturing costs, but that the Signatory will not slack in its efforts to have the INMARSAT system inextricably woven into the fabric of maritime safety.

As far as these random interviews of captains are concerned, I expect a good many will tell the inspectors only what their employers have instructed them to say.

#### QUESTION IX:

*In your testimony, you refer to findings by the Federal Communications Commission regarding widespread deficiencies in the 500 kHz transmitting antennas, which are the primary means of sending distress signals for our U.S. merchant fleet. I would like you to expand upon your testimony with respect to these systems.*

Please refer to the Comment and the Reply Comment of the Radio Officers Union furnished to you as References A and B to this correspondence. These documents refer to FCC PR Docket No. 83-11 which give an in-depth account of the very serious antenna problems we are faced with together with some recommendations for improvements to existing installations. We make clear our opposition to the Commission's three-year correction proposal and to the American Institute of Merchant Shipping's proposals which argue that correcting these dangerous antennas would not be a cost effective contribution to safety. The AIM's Comment and the Commission's Proposed Rule are included with Reference B.

QUESTION IX(A):

*In order for 500 kHz transmitters to be in compliance with FCC regulations, they must be capable of sending a signal 200 miles on main power and 100 miles on emergency reserve power. The FCC has apparently been slow in enforcing compliance. Why? In your estimation, does the FCC have the financial resources and technical personnel required to carry out its vessel inspection responsibilities? What recommendations might you have to improve regulations for 500 kHz transmitters?*

a. WHY HAS FCC BEEN SLOW IN ENFORCING COMPLIANCE?

I do not know why they have been slow in enforcing compliance.

b. IN YOUR ESTIMATION, DOES THE FCC HAVE THE FINANCIAL RESOURCES AND TECHNICAL PERSONNEL REQUIRED TO CARRY OUT ITS VESSEL INSPECTION RESPONSIBILITIES?

As you may expect, I have no true knowledge of the Commission's operating budget. I have never made their financial arrangements my business. I can only judge their performance by what they do and what they say. For example, look at paragraph 13 of their Proposed Rule for 500 KHz antennas found in the back of Reference A. Here they propose that ship's radio officers test and certify each others radio installations. Not only do ships not have the requisite test instruments to measure the mandated signal strengths, radio officers have no authority to assume such responsibilities. Considering that it takes money to inspect ships, the inference here might well be (a) they do not have the money to do the job, (b) they do not have the technical personnel to do the job, or (c) they do not have a true grasp of the seriousness of the problem.

In another Docket, PR No. 83-428, the Commission is proposing to reduce inspection intervals for Great Lakes shipping from 1 to 2 years and for small passenger vessels from 2 years to 5 years. Here, in paragraph 6 they say their proposals will, "permit the Commission to better allocate its scarce resources."<sup>4</sup> They go on to say that there is less need for inspections now because there has been a large increase in the number of radiotelephone equipped vessels. These two statements obviously speak to

<sup>4</sup> Federal Register Vol. 48, No. 102, Wednesday, May 25, 1983, page 23447.

your question. The first says that they are pinched for money and the second might indicate that there is a lack of qualified people. Commissioner Rivera's Statement of Dissent furnished under Question VIII mentions the Commission's limited resources in connection with ship inspections.

c. WHAT RECOMMENDATIONS MIGHT YOU HAVE TO IMPROVE REGULATIONS FOR 500 KHZ TRANSMITTERS?

The regulations seem to be adequate as they stand. The problem is that the Commission is not enforcing them.

QUESTION IX (B)

*Considering their value in terms of safety of life at sea and national security, please compare the relative effectiveness of the 800 kHz distress system as compared to INMARSAT terminals.*

I have dealt rather extensively with this topic in Question IV and elsewhere regarding the unsuitability of INMARSAT for national security and safety of life at sea, but before discussing INMARSAT's major handicap, please review the answer to your question I(b), AREA OF MEDIUM FREQUENCY TRANSMITTERS. Consider functions (a) through (d), (f) and (h) under (1.), Ship-to-SHIP Radiotelegraph. These functions are the heart of the 500 KHz distress system. As the subtitle indicates, it is a ship-to-ship system and this is its strength. All ships are equipped with mandated equipment; all ships guard a common frequency. If one ship transmits a signal all ships within range will hear it. It is a party line of sorts. Thus, a distress call or other critical message sent on this frequency is instantly and directly received by all ships which are in immediate need of the information or which are immediately capable of acting upon it. In practice it is not the Coast Guard station 1500 miles away which can best help a suddenly distress vessel far at sea, it is the nearby ships over the horizon. The unmistakable note of the SOS call instantly and directly alerts all ships which then immediately rush to assistance.

In the case of an INMARSAT equipped vessel, none of the MF ship-to-ship functions can be done directly or universally with all ships because, in essence, INMARSAT is a ship-to-shore system. Ship to ship communications are possible but only through a earth station connection and then only to another INMARSAT equipped vessel. For routine communications this may be acceptable assuming (a) the identity of the ship is known, and

[COMMITTEE NOTE: References C, E, and F were placed in committee files due to restrictions in printing.]

(b) the ship is INMARRAT equipped. However, in a distress situation you want to quickly attract the attention of those ships closest to you but normally you do not know which ones they are or where they are. In the 400 Mhz distress system this information is instantly acquired. To acquire the information with ships only equipped with INMARRAT, time-consuming rebroadcast and information assessment methods must be resorted to which will then only furnish information which is unacceptable because it is incomplete. Remember only a small fraction of world shipping is INMARRAT equipped. Considering that IMO does not require INMARRAT for the present distress system and that it will likewise not be a requirement of the future system, INMARRAT will remain a system incapable of furnishing complete information from distress scene areas.

As I conclude my remarks about the effectiveness of these two systems, I think a word or two is also in order regarding another element of their cost effectiveness. Your bill emphasizes the importance of mandatory ship reporting for vessel safety. AMVER messages are now obligatory for American ships but I wish to bring to your especial attention that while 120 marine coastal stations throughout the world relay AMVER safety messages to our Coast Guard centers free of charge, INMARRAT has made a policy of charging to the bill for this service. Moreover, with the exception of the initial distress message, all subsequent distress, urgency and safety messages are to be similarly charged for while every Coast station in the United States and throughout the world humanely handles all these messages free of charge. Every ship or station in the Mobile Service of the United States is specifically prohibited from charging for the transmission, receipt, or relay of distress communications under Title 47 U.S.C. Section 357(d) and, similarly, handling urgency and safety communications under Section 357(b). By this action, INMARRAT has introduced a new and rather noxious kind of mercantilism into safety for seamen and the satellite versus terrestrial cost effectiveness equation. Not only does INMARRAT charge for all these kinds of messages, according to FCC 83-205 33093/PR docket No. 83-430, they are proposing to IMO that administrations arrange that all such communications should be free to shipowners. If this proposal goes forward and payments cannot be arranged at the Commission, I should expect that Congress will soon hear from the United States Signatory.

Respectfully submitted,

RADIO OFFICERS UNION,  
D-3 NMEBA, AFL-CIO

By:

*Charles D. Calhoun*

Charles D. Calhoun  
President  
30 Montgomery Street  
Jersey City, NJ 07302

*Committee Note: References C, E, and F were placed in Committee files due to restrictions in printing*

# Reference A

COMMENT

Of The

RADIO OFFICERS UNION D-3 NMEBA

RE: PR Docket No. 83-11

Acceptable level of radiated  
power of 500 kHz for compulsory  
telegraph vessels

RECEIVED

FEB 28 1983

OFFICE OF THE SECRETARY  
E.C.C.

BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C.

In the Matter of )  
Acceptable Level of Radiated Power )  
of 500 kHz for Compulsory Telegraph ) PR Docket No. 83-11  
Vessels. )

COMMENT  
of the  
RADIO OFFICERS UNION  
District 3  
of the  
NATIONAL MARINE ENGINEERS BENEFICIAL ASSOCIATION, AFL-CIO  
In Their Own Behalf  
February 28, 1983

TO: THE COMMISSION



The Radio Officers Union, District 3 of the National Marine Engineers Beneficial Association, is a U.S. merchant marine radio officer organization having contractual agreements with various American steamship companies operating U.S.-flag vessels. Our organization is responsible for training Radio Officers in marine electronics and communications and for maintaining a pool of licensed, professionally qualified, merchant marine officers who are employed on American ships. The Radio Officers Union (ROU) represents radio officers of the Military Sealift Command and the National Oceanic and Atmospheric Administration. We hold collective bargaining agreements with commercial steamship companies which own and/or operate approximately 50 percent of the ocean-going U.S.-flag fleet.

In this Docket the Commission is proposing to amend Part 83 of its rules to require that all compulsory telegraph vessels be capable of generating a minimum field strength of 30 millivolts per meter for the Ships' main radio transmitter and 10 millivolts per meter for the reserve transmitter at a distance of one nautical mile on the international distress and calling frequency 500 kHz. The Commission states that this action has become necessary because, due to changes in antenna design, there has been a progressive decline in antenna efficiency to the point where the prescribed 200 watt main and 25 watt reserve transmitters no longer assure a field strength of 30 mV/m and 10 mV/m at a distance of one nautical mile. As a principal organization of seafarers responsible for operation of the radio equipment

mentioned in the Notice of Proposed Rule Making, we offer the following comments for the Commission's consideration.

A. THE RULES SHOULD BE AMENDED

1. Except for the three year implementation proviso, we are in favor of adoption of the Commission's proposed rule amendments. These rule changes are necessary to correct a serious failure in radio equipment carried on ships by provisions of both the Communications Act of 1934 (the Act) and the Safety of Life at Sea Convention of 1974 (SOLAS). The primary purpose of this equipment is to protect the safety of seamen and passengers on merchant vessels of the United States. Because of its vital importance, necessary amendments to rules pertaining to such equipment should be enacted quickly.

2. Recent tests of 32 shipboard radio installations by the Commission have revealed twenty-seven deficient antenna systems used for transmitting on 500 kHz -- certainly a sufficient number to establish the validity of the antenna problem and sufficient reason for amending the Commission's Rules.

3. Observations mentioned in the Notice correspond with our shipboard operational experience that substantial amounts of power are lost due to inefficient methods of conducting transmitter output power to the antenna feed-point. Since numerous companies manufacture coaxial transmission lines and remotely tuned antenna couplers in addition to

the company employing these methods mentioned by the Commission,<sup>1/</sup> equipment is readily available to correct inefficient installations. Corrective work can move forward without delay.

4. In addition to improvements in transmission of power to the antenna, application of the following expediences can contribute to improved antenna efficiency:

- o Medium frequency (MF) antenna insulators should be kept free of salt and flue-gas deposits which cause radio frequency (RF) power loss.
- o Antenna cowls should be fitted with easily removed access panels of sufficient size to permit thorough cleaning of insulators.
- o Antennas can be arranged to minimize insulator use. Efficiency will increase by reason of reduction in leakage paths.
- o Most MF vertical and short-wire antennas have insufficient capacitance for high efficiency. This problem can be diminished by use of the cage-antenna configuration. This antenna is inexpensive and is in common use today on foreign vessels where deck space is limited.
- o Existing long-wire antennas can be lengthened to improve efficiency.

In this last suggestion we must warn the Commission that bow mounted support masts, anchor-ball poles, and similar supports mounted directly on the vessel's bow are potentially dangerous and should be prohibited for use as antenna supports. In heavy weather, such mountings expose the antenna to seas which may short it out or carry it away. Under such weather conditions repairs to the antenna are impossible. Moreover, if the vessel is involved in a bow-on collision, antenna destruction is almost certain.

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<sup>1/</sup> Southern Avonics Company, Beaumont, Texas.

All of the above mentioned expediciencies involve little expense. In most cases they can be accomplished by ship's personnel and they require only readily available materials. This work can contribute to improved antenna efficiency and can be done without delay.

5. Consideration of problems affecting shipboard antennas used for distress communications was commenced by the Commission in General Docket 78-185 on June 27, 1978. After two years and nine months of deliberation, the Commission decided that more information was needed. Moving ahead at a somewhat faster pace, (one ship every three weeks) the Commission completed a one year and ten month signal strength test of thirty-two vessels on February 3, 1983 with the issuance of the present Notice of Proposed Rule Making.

Excluding time spent in deliberations preceding the initial notice of 1978, more than four years and seven months have been spent in arriving at the proposals in the Notice. The Commission's Rule amendments should be adopted as quickly as possible to avoid further delay.

#### B. FCC CERTIFICATION SHOULD BE REQUIRED

1. The Commission has described in this Notice (FR 4848 February 3, 1983 Para. 4) a progressive decline in the efficiency of antennas owing to design changes so that a point has been reached where some antennas no longer radiate sufficient power when coupled to 200 watt

and 25 watt radio transmitters. In our view this reasoning obscures the problem. The root cause of the problem at hand is not various "swings" to single-wire and verticle antennas per se, but rather to laxity in inspection of ship radio stations. The overall averaging down of antenna efficiencies began with the first certificate of inspection issued to a ship station which could not transmit a clearly perceptable signal the prescribed two hundred and one hundred miles as per Title III, Part II, Section 355(e) of the Act.

In the absence of official restraint or guidance, naval architects have in some cases placed a radio room on a vessel's Main Deck which necessitates long, loss inducing, RF power transmission runs to upper deck antenna locations. Shipyard installation technicians have likewise rigged up what the plans call for or, in many cases, whatever appears suitable to them and is capable of taking an electrical load on the band 410 to 512 kHz. This situation clearly points to the need for improved ship radio station inspection procedures and subsequent guidance for the industry.

2. The Commission has requested comment as to the feasibility of a self-certification program to be conducted by ship radio officers. We are, of course, ready to assist the Commission's inspectors in their tests of ship installations. However, we do not consider that it is in our own or the public interest to engage in the business of certifying ship radio stations. In our view, Commission expertise and Commission responsibility are clearly required to establish and certify safety

requirements of marine communications equipment. Our view is supported by the Act and by the provisions of Section 0.131 and 0.111 of the Commission's rules which outline functions of the Private Radio and Field Operations Bureaus. Once federal inspectors have established that a particular ship radio station does in fact meet performance standards set by Congress, and by SOLAS where applicable, the Commission may be assured that radio officers of our organization will assume responsibility for maintenance of these standards to the fullest extent possible.

C. IMPLEMENTATION SHOULD NOT BE DELAYED

1. In this Notice the Commission's attention has focused on 500 kHz signal strength requirements of the Act. We wish to remind the Commission that as signatories to SOLAS, U.S. merchant vessels engaged in foreign commerce must be fitted with radio installations capable of transmitting 500 kHz signals of essentially the same strength as those required by the Act.<sup>2/</sup>

The results of tests mentioned in this Notice indicate that only five of the thirty-two vessels tested met or exceeded the 30 mV/m - 10 mV/m i.e., two hundred and one hundred mile range requirements. This discloses the fact that approximately five-sixths of the entire U.S. merchant fleet over 1600 g.t. which is engaged in foreign commerce is in violation of the SOLAS Convention. This means contracting

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<sup>2/</sup> Footnote 2 on page 7.

## 2/ Safety of Life at Sea 1974, Chapter IV Regulation 10:

(g) The main and reserve transmitters shall, when connected to the main antenna, have a minimum normal range as specified below, that is to say, they must be capable of transmitting clearly perceptible signals from ship to ship by day and under normal conditions and circumstances over the specified ranges.\* (Clearly perceptible signals will normally be received if the R.M.S. value of the field strength at the receiver is at least 50 microvolts per metre.)

	Minimum normal range in miles	
	Main transmitter	Reserve transmitter
All passenger ships, and cargo ships of 1,600 tons gross tonnage and upwards	150	100
Cargo ships below 1,600 tons gross tonnage	100	75

\* In the absence of a direct measurement of the field strength the following data may be used as a guide for approximately determining the normal range:

Normal range in miles	Metre-amperes <sup>1</sup>	Total antenna power (watts) <sup>2</sup>
200	128	200
175	102	125
150	76	71
125	58	41
100	45	25
75	34	14

<sup>1</sup> This figure represents the product of the maximum height of the antenna above the deepest load water-line in metres and the antenna current in amperes (R.M.S. value). The values given in the second column of the table correspond to an average value of the ratio

$$\frac{\text{effective antenna height}}{\text{maximum antenna height}} = 0.47$$

This ratio varies with local conditions of the antenna and may vary between about 0.3 and 0.7.

<sup>2</sup> The values given in the third column of the table correspond to an average value of the ratio

$$\frac{\text{radiated antenna power}}{\text{total antenna power}} = 0.08$$

This ratio varies considerably according to the values of effective antenna height and antenna resistance.

governments may legally prevent these vessels from sailing from their ports by powers contained in Chapter I Regulation 19.

2. In addition to the threatening legal aspects at hand, -- and by extension, economic harm to ship owners -- we consider that U.S. credibility and prestige are now subject to test. The State Department has gone to considerable lengths to insure that our country is able to exert maximum influence in the International Maritime Organization. Care should be taken that less than adequate measures to correct SOLAS Convention discrepancies do not reflect poorly on our government.

3. Quite apart from the statutory and treaty problems brought to light in this Notice, the issue of human safety remains most important and demands immediate attention. The Commission's tests of ship installations has revealed beyond reasonable doubt that distress signals will not be heard at normal ranges from approximately 474 vessels out of a total of 569 U.S. vessels in the deep-draft oceangoing merchant fleet.<sup>3/</sup>

As an organization of seafarers whose members could stand to lose their lives as a result of unsafe antennas used for distress communications, we are alarmed at the Commission's proposal to allow three years for correction of deficient installations. Such proposals belie the unusual perspective with which the Commission views this problem and the generally dilatory manner in which it was investigated. We do

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<sup>3/</sup> U.S. Merchant Marine Data Sheet, U.S. Department of Transportation, Maritime Administration, January 10, 1983.



not understand the Commission's three year implementation proposal but we do understand the threat it poses to our safety. The ROU is adamant in its opposition to this dangerous proposal..

D. CONCLUSION

Little more than two years ago the American freight ship SS POET went down in the North Atlantic with all hands. Central among the unanswered questions surrounding the mysterious disappearance of this vessel is the question of why no distress message was heard by other vessels or coast stations. Certainly disclosures made by the Commission in this Notice must provide yet another possible cause to the list compiled by the National Transportation Board in its Marine Accident Report of June 23, 1981. To lessen the likelihood of such disasters occurring in the future, the Radio Officers Union urges the Commission to:

- o Amend the Rules as proposed.
- o Conduct tests of all compulsory telegraph vessels.
- o Take steps toward immediate correction of all deficient installations.
- o Give highest priority to consideration of this Docket.

Only prompt and effective action can serve the public interest.

Respectfully submitted,

RADIO OFFICERS UNION,  
D-3 NMEBA, AFL-CIO

By:



Charles D. Calhoun  
President  
30 Montgomery Street  
Jersey City, NJ 07302

# Reference B

REPLY COMMENT  
of the

RADIO OFFICERS UNION D-3 NMEBA

RE: PR DOCKET No. 83-11

Acceptable level of radiated  
power of 500 kHz for compulsory  
telegraph vessels

RECEIVED

MAR 15 1983

BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D. C.

FCC  
Office of the Secretary

In the Matter of )  
Acceptable Level of Radiated Power )  
of 500 kHz for Compulsory Telegraph )  
Vessels )

PR DOCKET No. 83-11

REPLY COMMENT

of the.

RADIO OFFICERS UNION

District 3

of the

NATIONAL MARINE ENGINEERS BENEFICIAL ASSOCIATION AFL-CIO

In Their Own Behalf

March 15, 1983

TO: THE COMMISSION

The Radio Officers Union, District 3 of the National Marine Engineers Beneficial Association, is a U.S. merchant marine radio officer organization having contractual agreements with various American steamship companies operating U.S.-flag vessels. Our organization is responsible for training Radio Officers in marine electronics and communications and for maintaining a pool of licensed, professionally qualified, merchant marine officers who are employed on American ships. The Radio Officers Union (ROU) represents radio officers of the Military Sealift Command and the National Oceanic and Atmospheric Administration. We hold collective bargaining agreements with commercial steamship companies which own and/or operate approximately 50 percent of the ocean-going U.S.-flag fleet.

In this Docket the Commission is proposing to amend Part 83 of its rules to require that all compulsory telegraph vessels be capable of generating a minimum field strength of 30 millivolts per meter for the Ships' main radio transmitter and 10 millivolts per meter for the reserve transmitter at a distance of one nautical mile on the international distress and calling frequency 500 kHz. The Commission states that this action has become necessary because, due to changes in antenna design, there has been a progressive decline in antenna efficiency to the point where the prescribed 200 watt main and 25 watt reserve transmitters no longer assure a field strength of 30 mV/m and 10 mV/m at a distance of one nautical mile. As a principal organization of seafarers responsible for operation of the radio equipment mentioned in the Notice of Proposed Rule Making, we offer the following reply comments for the Commission's consideration.

# A. IMPEDANCE-MATCHING -- THE PI NETWORK

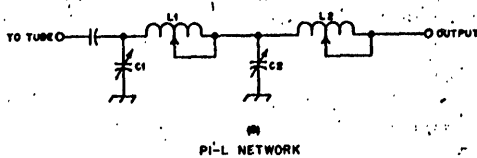
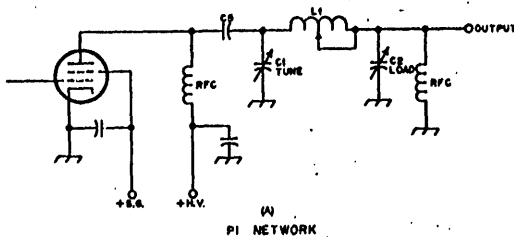
1. In reference to new transmitters such as are employed on the vessel, STAR OF TEXAS, AIMS states that until recently all 500 kHz transmitters were type approved with output impedances of 2 to 10 ohms and that modifying such transmitters to operate into efficient 50 ohm coaxial transmission line antenna systems in order to meet mandated signal strength requirements would not be a cost effective contribution to safety. AIMS asserts that these modifications would require extensive redesign and new type approval. (14)

We are of the opinion that Medium Wave transmitter output impedance is not a major problem for various reasons which we list as follows:

- o If ship 500 kHz transmitters are required to match a 2 - 10 ohm load for type approval, this does not necessarily mean that they will not match loads of higher impedance.
- o Transmitter output impedance must match the input impedance of the load (in this case the transmission line) for maximum power transfer but in practice this is often not possible. A certain amount of mismatch is permissible. Power lost as the result of mismatch may be more than compensated for by coaxial transmission line transfer of power from the ship's transmitter to above deck antenna locations.
- o Modifications to shipboard radiotelegraph equipment are commonplace and are performed onboard ship.
- o Such changes as may be necessary to modify some marine transmitters for optimum impedance-matching into a 50 ohm line should not be regarded as "extensive" as AIMS says. (14)
- o Shipboard 500 kHz transmitters already contain the major parts necessary to modify the output impedance network. Only minor changes in the electrical values of these parts may be necessary and this would involve little expense.

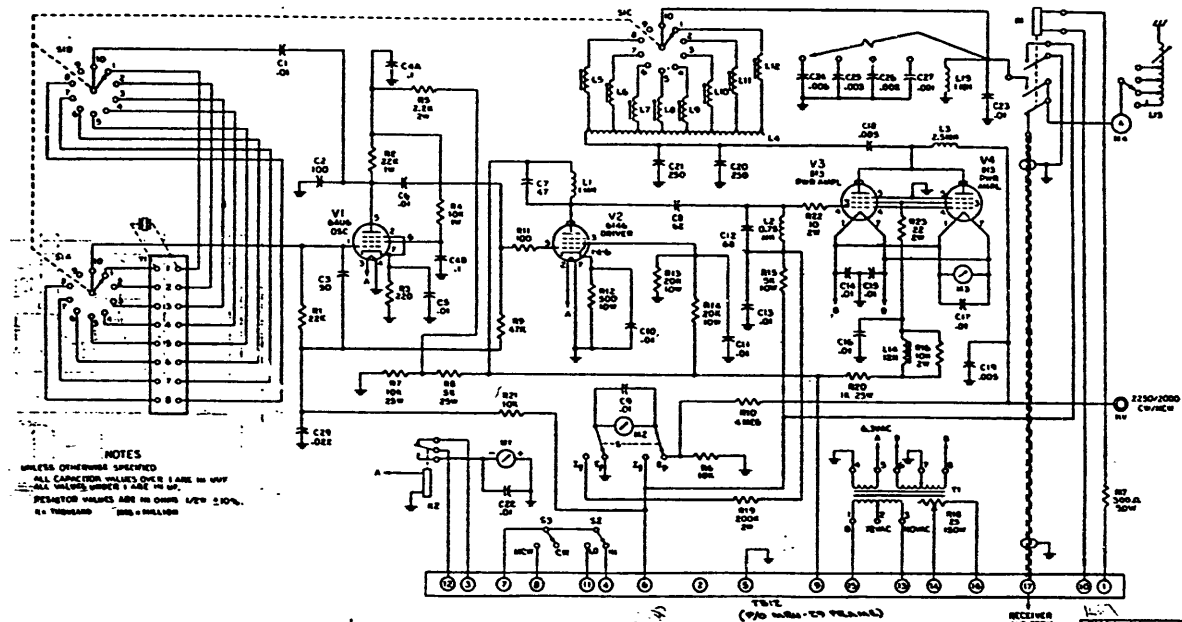
- o Most importantly, we estimate that transmitter modification as outlined above would not be required of most ships affected by the Commission's Notice. In our judgement nearly all of these deficient installations may be corrected by the simple expediency of lengthening the existing verticle and long-wire type antennas with more wire.

2. Should it be determined that some few, worst-case, ship installations actually require modification for 50 ohm impedance operation, vessel operators need not worry about expense or delays due to lack of research and readily available technology. The PI-Network is employed in thousands of radio transmitters in which transmitter output impedance must match a 50 ohm (or greater) input line impedance. The following are schematic examples of PI and PI-L networks: <sup>1/</sup>

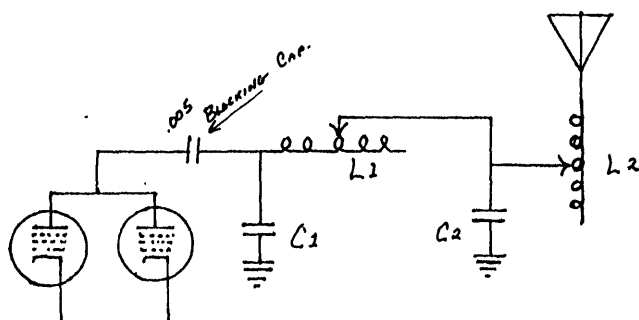


3. In determining the feasibility of applying PI-Networks to Medium Wave ship transmitters, we must first refer to the diagram of a typical transmitter such as the ITT unit on the following page.

<sup>1/</sup> ARRL HANDBOOK, Fifty-Eighth Edition, 1981.



A simplified diagram of the output stage of this transmitter appears below.



By comparing this diagram with the one for PI-Networks, it can be easily determined that this transmitter contains all the necessary components of the PI-Network with the possible exception of  $C_1$  which is fixed rather than variable.  $C_2$  is variable, although not indicated as such in the simplified diagram. Variability is accomplished in this case by strapping combinations of fixed capacitance.

4. To modify this transmitter to match a 50 ohm load should require only simple modification of already existing components -- primarily the electrical value of these components. This can be easily and inexpensively accomplished by inserting varying amounts of lumped inductance or capacitance in series or parallel with existing components.



**B. LENGTHENING ANTENNAS IMPROVES EFFICIENCY**

For technical reasons explained in Section E of this Comment, and by reason of direct operational experience, we are confident that all but the most serious cases of 500 kHz antenna deficiency may be effectively and inexpensively corrected by simply lengthening existing verticle and long-wire type antennas. One hundred or more feet of stranded copper wire attached to existing verticle or long-wire antennas will very likely correct most, if not all, deficient systems. There can be little argument that this would not be a cost-effective measure.

Accordingly, we urge the Commission to require immediate modification for those vessels known to have deficient antennas. In the case of vessels not yet tested, we urge the Commission to proceed in the most expeditious manner possible to cause these vessels to be tested and corrected where necessary.

**C. FGMDSS -- AIMS' SIX YEAR HOLE IN THE SAFETY NET**

1. In connection with the Commission's proposal to allow vessel operators three years to correct defective antennas used for distress and safety purposes, AIMS mentions the Future Global Maritime Distress and Safety System (FGMDSS) and how, in their view, voluntary fitting of the FGMDSS equipment package in 1987 would somehow: a) obviate the need to correct defective 500 kHz antennas within three years, and b) avoid requiring the AIMS fleets to furnish their vessels with efficient antennas which would then, in AIMS words, be "redundant, superfluous communications equipment."

2. In any discussion of the Future Global Maritime Distress and Safety System, added emphasis must be placed on the word, Global. For the FGMDSS to be totally effective it must have total participation by all maritime countries of the world as in the present 500 kHz distress and safety system.

AIMS is apparently placing great dependence on the proposed 1990 FGMDSS start up date despite growing indications of stiffening opposition to the future system. Countries such as Greece, who have one of the largest national-flag fleets in the world, have rejected many FGMDSS equipment carriage requirements. Other countries, such as Germany and Japan which already have effective search and rescue programs in operation for their national fleets, have withdrawn support for various other elements of the International Maritime Organization (IMO) system.<sup>2</sup>

Another factor which must be considered is economics. Major Third World countries are rapidly expanding their fleets as the result of new cargo preference agreements for these countries made possible by the United Nations sponsored UNCTAD Liner Code.

Like AIMS, Greece and virtually all the Third World countries, including such flag-of-convenience countries as Liberia and Panama, will judge FGMDSS in terms of cost effectiveness. With plenty of cheap marine telegraph equipment on the world market, and plenty of Third World radio officers such as those from the Philippines, Pakistan, etc.

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<sup>2/</sup> International Maritime Organization, Sub-Committee on Radiocommunications, 25th Session, COM 25/WP.8, December 16, 1982.

who work for \$650 per month,<sup>3/</sup> the vast majority of the one hundred and twenty-two member countries of IMO will not rush headlong to sign up for a costly new radio system.<sup>4/</sup> The United States has but one vote at IMO and, unfortunately, a rather insignificant fleet with regard to IMO tonnage considerations. We urge the Commission to keep these recent developments in mind and not place undue dependence on a IMO timetable which is so subject to the vicissitudes of international politics and, more importantly, market place economic conditions unlike our own.

3. Next, assuming for the purposes of argument that the FGMDSS is implemented worldwide in 1990, we must examine AIMS' proposal that fitting of U.S. vessels with the FGMDSS equipment package will avoid the necessity of correcting defective 500 kHz antennas. AIMS bases its proposal, if indeed it can be called such, on the IMO Transition Plan appended to this Comment. (Please refer to Appendix A.)

The AIMS proposal before the Commission is unsubstantiated, lacks basis in fact and should be regarded as invalid for the following three reasons.

Firstly, AIMS' "close coincidence" date (13) mentioned as 1987 (11) has been fudged by one year. Telegraph equipped vessels will not be allowed to stand watches using voluntary FGMDSS equipment until 1988. Secondly, COM 25/WP.9 for 1988 requirements at Page 3 (see Appendix A)

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3/ FAIRPLAY INTERNATIONAL (London), January 13, 1983.

4/ International Maritime Organization, Sub-Committee on Radiocommunications, 25th Session, COM 25/WP.8/Add.1, December 17, 1982.

states in paragraph 3 that regardless of FGMDSS equipment and procedures utilized in 1988, "either the main or reserve radiotelegraph installations shall be retained" (until 1990). Thirdly, we must not lose sight of the fact that for a distress and safety system to be fully effective, it must employ equipment and procedures used in common by all vessels. Since all of the FGMDSS transition plan proposals prior to 1990 call for only voluntary compliance, a dual world system is certain until 1990. For reasons previously mentioned, even this date is not likely to be realized.

4. In reality, what AIMS is proposing is a six year and nine month period in which American seamen and those of other nations must depend on inefficient radio installations for the safety of their lives. The AIMS comment is not a valid proposal. It is simply an importunate suggestion that vessel operators be allowed to circumvent the law.

D. RADIOTELEGRAPH EXEMPTION FOR COASTWISE SHIPPING.-- THE "PARALLEL" SYSTEM

1. AIMS correctly terms this radiotelephone system the "parallel" system. It parallels the FGMDSS but never coincides with it because it does not employ Digital Selective Calling (DSC) or the satellite Electronic Position Indicating Radio Beacon (EPIRB) -- dual keystones in the FGMDSS structure.

2. We are of the opinion that the coastal radiotelephone system is not germane to the question of 500 kHz antenna efficiency and that interjection of this subject seems to have no other purpose than obfuscating a very important issue concerning safety at sea.

Since the subject of the coastal radiotelephone system has already been broached however, perhaps a brief digression is in order regarding coastwise shipping. In the case of companies whose vessels are engaged in the coastal trades, and who may now be contemplating fitting these vessels with equipment as per Section 83.480(c) of the Commission's rules to avoid compliance with the proposed rules in this Notice, we feel that the Commission has a duty to inform these companies and the shipping community in general of the probable consequences they will face in the future. In 1990, or whenever FGMDS becomes mandatory for world shipping, all vessels in our coastal trades will have to comply with FGMDS equipment requirements -- not FCC equipment requirements mentioned in Section 83.480(c). This new equipment will require configuration and technical standards that are unavailable now, and are in fact presently unknown. These requirements must be developed and tested by such organizations as the International Radio Consultative Committee (CCIR), various national organizations, and must otherwise pass through the IMO administrative process. Companies fitting their vessels now, or even some years hence, will not be able to avoid additional costs in meeting future equipment reliability standards, automation standards, simplicity of operation requirements and so on. In short, fitting coastal vessels now with equipment as per Section 83.480(c) would not be a cost effective investment.

E. EFFICIENT ANTENNAS -- A CONTINUING REQUIREMENT

1. AIMS argues that if vessel operators are required to modify deficient antennas now, they will be left with superfluous equipment in

1990 or some later date when the FGMDSS becomes effective.<sup>(13)</sup> This is not true.

One of the most important frequencies to be used in the FGMDSS is 2182 kHz. This frequency is to be used by all vessels sailing beyond twenty miles from shore. The frequency is used by our ships today and is in fact one of the required frequencies for the Commission's coastwise telegraph exemption plan.

Central among all laws of physics governing radio is the fact that maximum radiation will take place when the radiator (antenna) is physically one-half the electrical wavelength of the transmitting frequency. The mathematical formula for determining a half-wave in free space is:

$$\text{LENGTH (FT)} = \frac{492}{f(\text{MHz})}$$

This formula corrected for wire thickness and insulator end-effect is:

$$\text{LENGTH (FT)} = \frac{492 \times 0.95}{f(\text{MHz})} = \frac{468}{f(\text{MHz})}$$

Therefore, the optimum length for a 2182 kHz ship antenna is :

$$\frac{468}{f(\text{MHz})} = \frac{468}{2.182} = 214.4 \text{ FT} \frac{5}{8}$$

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5/ ARRL HANDBOOK, Fifty-Eighth Edition, 1981.

Maximum efficiency and therefore maximum radiation will only occur with antennas 214.4 feet in length. All shorter antennas including quarter-wave antennas are less efficient compromises. The physical length they lack must be compensated for by the introduction of lumped inductance in series with the antenna wire. Such inductors consume signal power which is wasted in the form of heat.

2. The above facts amply explain why commonly used 40-foot vertical ship antennas, such as the ITT/Mackay MR106-38A, do not radiate strong signals on 500 kHz. Such antennas are also too short for top efficiency on 2182 kHz. They are 174 feet too short for optimum half-wave efficiency and 67 feet too short for less efficient quarter-wave operation on 2182 kHz.

Therefore, steps to lengthen these antennas as well as the short long-wire types -- which is one of the measures we are recommending in this Docket -- are steps toward improved antenna efficiency for both frequencies.

Another important fact of radio engineering is that an antenna of optimum efficiency for transmitting on a particular frequency (500 kHz) is also the optimum antenna for receiving signals on the frequency. It should be noted that when the FGMDSS goes into effect, the MF frequency of 518 kHz will be used internationally for coast station radioteletype transmission of distress, navigation and safety information. This frequency has already been designated for such use by the Commission. Efficient antennas will be needed to receive these transmissions.

Money spent by steamship companies to improve the efficiency of antennas used for the present distress and safety system will not be wasted since these improvements will result in improved efficiencies for the future system.

F. "ANTENNA STRENGTH"

AIMS wraps up its objections to compliance with Section 355(e) of the Communications Act of 1934 by stating<sup>(13)</sup> "...little evidence exists to corroborate a scenario that a maritime distress incident was facilitated as a result of antenna strength" [sic]. This statement is a contradiction. Sufficient signal strength is required to effect all radio communications. Moreover in the case of distress communications, overriding power may be necessary to break through interference from unwitting stations on the distress frequency. The acknowledgement of Congress in this respect may be found in 47 U.S.C. Section 321 which authorizes use of abnormally high radiation to effect distress communications.

We trust that the Commission will not give credence to the AIMS statement, but we do think it is a notable example of wrong headedness and recalcitrance on the part of AIMS with respect to safety equipment. We urge the Commission to be mindful of this attitude when making determinations in this Docket.

G. ALTERNATE CRITERIA

AIMS suggests that the radio station log can be used as a means of verifying a vessel operators compliance with the Communications Act.<sup>(15)</sup>



AIMS goes on to say that AIMS company vessels make Medium Frequency (MF) (500 kHz) contacts at ranges in excess of 200 nautical miles. AIMS states, "for operational reasons, as well as for safety reasons, shipping companies insist that the MF radio be maintained to a level which will ensure this minimum capability."

For this statement to be true then:

- a) no AIMS vessels have verticle antennas or,
- b) all AIMS vessels are fitted with long-wire antennas and all such antennas fall within the thirty-three percentile average which are capable of radiating according to federal statute or,
- c) the Commission's tests of twenty-seven out of a total of thirty-two vessels were erroneous.

The likelihood that any of the above are valid statements is very remote.

Again, we are furnished with a prime example of why ship operators must not be allowed to perform radio inspection duties which are so clearly the responsibility of the Commission as set forth in the Communications Act of 1934. The AIMS statement is indicative of the kind of stretching-of-the-facts which the Commission will encounter under self-certification procedures and is the kind of thing we are, in the interest of our safety, determined to prevent. We are not opposed to radio logs being used in the verification process; we simply want the Commission's inspectors to witness the actual contact and acknowledge the frequency, distance, and power levels used.

We feel such arrangements are necessary not only to prevent falsification but also to prevent errors. For example, a ship fitted with a 1000 watt main transmitter may be able to effect contact over the necessary 200 miles using a deficient antenna but operators may mistakenly assume that the vessel's 25 watt reserve transmitter will transmit the necessary 100 miles using the same antenna.

#### H. ANTENNA CURRENT

Members of our organization have observed the poor performance of these antennas on countless occasions. Radio frequency output current on deficient antennas has been known to drop as much as ninety-five percent or more under rain or sea spray conditions. At times output is so low that no output current can be observed on the antenna ammeter. In this condition, proper transmitter tuning is impossible since antenna resonance points are not observable on transmitter panel meters.

#### I. COST EFFECTIVENESS

1. Little more than a month ago the American Coal Ship, SS MARINE ELECTRIC, capsized and sank thirty miles off the Virginia Capes. Thirty-one seamen perished in this tragedy which by all accounts could have been prevented had adequate inspections and needed repairs been performed. In subsequent hearings, witness after witness (including three survivors) testified as to the unseaworthiness of this vessel. Testimony mainly centered on warped and rust-weakened hatchcovers on the vessel's bow. Shipyard officials surveyed the vessel prior to the disaster and urged its owners to repair the hatchcovers but were turned down. The Captain's last words were that his vessel was sinking by the head.

On February 16, 1983, one survivor and the families of four deceased crewmembers filed lawsuits totaling sixty-four million dollars against the MARINE ELECTRIC owners.<sup>6/</sup> Other suits will undoubtedly be filed.

2. In connection with this recent disaster, we must mention a similar though less explicable event. On or about October 25, 1980, the American break-bulk ship SS POET went down in the North Atlantic with all hands. The sinking of this vessel resulted in numerous and extensive investigations by the Coast Guard, the National Transportation Safety Board and the Congress.<sup>7/ 8/</sup> While actual causes of the sinking were not determined with certainty, two very serious discrepancies were brought to light. Firstly, the vessel's owner waited nine days, until November 3, to notify the Coast Guard that his vessel was missing, then the Coast Guard waited another five days, until November 8, to begin a search for the missing vessel. Secondly, no radio distress message was received from the SS POET.

By October 25 lawsuits totaling more than twenty million dollars were filed against the POET's owner.<sup>9/</sup>

3. To connect these two ship disasters and to focus the significance of them on the serious points at issue in this Docket, we must ask the Commission to give careful consideration to the following

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6/ JOURNAL OF COMMERCE, February 18, 1983.

7/ NATIONAL TRANSPORTATION SAFETY BOARD, NTSB-MAR-81-6.

8/ REPORT ON THE DISAPPEARANCE OF THE U.S. FLAG FREIGHTER SS POET IN OCTOBER 1980, Committee on Merchant Marine & Fisheries, September 16, 1982, Serial No. 97-E.

9/ THE BALTIMORE SUN, October 25, 1981.

question. If the POET's 500 kHz antennas were known to be defective as the result of either seamen's testimony or as the result of tests performed by the Commission such as have already been performed on thirty-two vessels, would a Federal judge recognize any difference between deficient hatchcovers and deficient antennas when determining damages for plaintiffs? We think a judge would not make a distinction.

4. The Commission has already determined that there are twenty-seven vessels sailing today with proven antenna deficiencies and the implication is that there may be as many as 447 more in the U.S. deep-draft oceangoing fleet.<sup>10/</sup> AIMS, who claims to speak for twenty-nine U.S. shipping companies, has spoken out against a requirement to fix deficient antennas because such a measure would, "offer a minimal return on a cost effective contribution to safety..." (13) We are of the opinion that attorneys for Marine Transport Lines, owners of the ill-fated SS MARINE ELECTRIC, and members of the AIMS trade association, would not concur with their representative's statement. Indeed, we think they would be adamantly opposed to it.

5. In view of the danger to life and property and in view of the huge damage claims which can be awarded to seamen and their survivors, immediate correction of defective antennas used for distress and safety purposes is surely a cost effective contribution to safety. Not only will such a measure protect the lives of seamen, it may very well protect the shipowner from financial ruin.

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<sup>10/</sup> U.S. Department of Transportation, Maritime Administration, U.S. MERCHANT MARINE DATA SHEET, November 1, 1982.

J. CONCLUSION

The ROU considers that deficient antennas such as those described in the Commission's Notice pose a serious threat to the safety of life at sea. We have described how, in our judgment, defective antennas may be easily and inexpensively corrected by measures which will not interfere with normal vessel operations. We feel that it is unnecessary to cite the many Sections of the Communications Act of 1934 denoting Commission responsibility for safety of life; however, in view of the seriousness of the matter, it is perhaps not out of place to remind the Commission of its duty to conduct its business expeditiously. We urge the Commission to make an early determination in this Docket with a view toward immediate implementation of corrective measures.

Respectfully submitted,

RADIO OFFICERS UNION,  
D-3 NMEBA, AFL-CIO

By: 

Charles D. Calhoun  
President  
30 Montgomery Street  
Jersey City, NJ 07302

NOTE: The following materials not included in original filing

# CONTENTS

- FCC notice of proposed rule making
- Comment of American Institute of Merchant Shipping

**47 CFR Part 83**  
(PR Docket No. 83-11; FCC 83-6)

## Acceptable Level of Radiated Power of 500 kHz for Compulsory Telegraph Vessels

**AGENCY:** Federal Communications Commission.

**ACTION:** Proposed rule.

**SUMMARY:** This item proposes to amend the FCC's marine rules to require a minimum radiated power on the distress frequency 500 kHz from the main and reserve installations aboard compulsory fitted radiotelegraph vessels. Measurements indicate a progressive decline in radiated power aboard large oceangoing vessels. The proposed action would set a minimum acceptable level of radiated power.

**DATES:** Comments must be received by February 22, 1983; reply comments must be received by March 15, 1983.

**ADDRESS:** Federal Communications Commission, Washington, D.C. 20554.

**FOR FURTHER INFORMATION CONTACT:** Walter E. Weaver, Private Radio Bureau (202) 633-7175.

### SUPPLEMENTARY INFORMATION:

#### List of Subjects in 47 CFR Part 83

Ship stations, Telegraph.

Adopted: January 12, 1983.

Released: January 27, 1983.

In the matter of amendment of Part 83 of the rules to require compulsory telegraph vessels to be capable of generating a specified minimum field strength at a distance of one nautical

mile; PR Docket No. 83-11; notice of proposed rule making.

1. In this Notice of Proposed Rule Making, we propose to amend Part 83 of the Commission's rules to require that all compulsory telegraph vessels be capable of generating a minimum field strength of 30 millivolts per meter (mV/m) for the (main installation) and 10 mV/m (reserve installation) at a distance of one nautical mile on the international distress and calling frequency 500 kHz.

#### Background

2. Title III, Part II, Section 355(e), of the Communications Act of 1934, as amended, sets forth the distances over which vessels of 1600 gross tons and over must be capable of communicating. The distances are as follows:

(e) The main and reserve installations shall, when connected to the main antenna, have a minimum normal range of two hundred nautical miles and one hundred nautical miles, respectively; that is they must be capable of transmitting and receiving clearly perceptible signals from ship to ship by day and under normal conditions and circumstances over the specified ranges.

3. In our Order in Docket 5212, "Investigation of Power Requirements for Ship Radio Transmitters", we determined that a ship station meets the statutory range requirements of Title III, Part II of the Communications Act, if the field strength of its signal at one nautical mile is 30 mV/m. We determined, in turn, that, considering the efficiencies of antennas then in use, this field strength could, on the average, be produced by a transmitter delivering 200 watts to the antenna.<sup>1</sup> Accordingly we adopted a rule, now § 83.552(b), which specified only output power requirements for the subject vessels. Similarly, we determined that the values for the reserve installation were 10 mV/m and 25 watts. See Rule § 83.553(b).

#### Problem

4. The standards that the main and reserve installations of vessels provide a field strength of 30 mV/m and 10 mV/m, respectively, at one nautical mile have remained unchanged since 1939. Over the past forty years most of the consideration leading to the established values have remained constant.<sup>2</sup> The one exception is antenna efficiencies. During this period, with the swing first to single-wire antennas and then to vertical antennas there has been a progressive decline in the efficiency of

antennas aboard the larger oceangoing vessels. This has continued to the point where the use of 200 and 25 watt transmitters in conjunction with presently used vertical and some long-wire antennas no longer assures a field strength of 30 mV/m and 10 mV/m at a distance of one nautical mile.

5. In Gen. Docket No. 78-185, released June 27, 1978 (FCC 78-435, 43 FR 28840), we initiated a Notice of Proposed Rule Making to require that the main installation of all compulsory telegraph vessels be capable of generating a field strength of 30 mV/m at a distance of one nautical mile. That proceeding was terminated by Report and Order, released March 24, 1981 (FCC 81-98, 46 FR 19007, 85 FCC 2d 686), without decision, in order to enable us to obtain additional information regarding antennas currently installed aboard U.S. vessels. We issued a Public Notice with our Report and Order in which we stated:

The Commission \* \* \* has decided to institute a series of tests to determine the antenna efficiencies of U.S. flag vessels. When these tests are completed and the results analyzed, the Commission will return to a consideration of how to implement the two hundred and one hundred nautical mile range requirements of Title III, Part II of the Communications Act 1934, as amended.

6. In paragraph 13 of the Report and Order we noted:

If the vertical antenna efficiencies are substantially up to those of long-wire antennas, we need not amend our rules. If, on the other hand, they are shown to be considerably less, we may have to again propose new rules.

#### Discussion

7. We have completed field strength measurements of the main installations aboard 32 vessels, 16 fitted with vertical antennas and 16 fitted with long-wire antennas.<sup>3</sup> Of the 16 vessels fitted with vertical antennas, the average field strength was 15.5 mV/m at one nautical mile. Of the 16 vessels fitted with long-wire antennas, the average field strength was 24.9 mV/m at one nautical mile. Of the vessels fitted with vertical antennas, none provided a field strength equal to or greater than 30 mV/m; the highest measured value was 26 mV/m. Of the vessels fitted with long-wire antennas, five measured as equal to or greater than 30 mV/m at one nautical mile.

8. We have made no measurements of the field strength of the reserve installation. Except for the transmitter, the reserve installation is usually the same or similar to that of the main

installation. The losses experienced by the reserve installation would, therefore, be the same or similar to those of the main installation. Thus, we have no reason to believe that the efficiencies of the reserve installation differ in a substantial manner from those of the main installation.

9. More recently, we have also completed field strength measurements of a vertical antenna<sup>4</sup> manufactured by Southern Avionics Company, Beaumont, Texas, and installed aboard the cargo vessel "Star of Texas". The report of those measurements shows that this vertical antenna far exceeded the minimum field strength required.<sup>5</sup>

10. The high level of electromagnetic energy radiated by the "Star of Texas" is due to efficiencies: (1) in coupling the transmitter to the transmission line, (2) of the transmission line, (3) in coupling the transmission line to the antenna and (4) of the antenna itself. In regard to some of the vertical antennas measured by the Commission, we believe several failed to meet the minimum required field strength because of inefficiencies in the first three of the above four factors, rather than in the antenna itself. The same may be true of some of the long-wire antennas. Also, it is not uncommon for the power delivered by the transmitter to the antenna to be less than the output power at which the transmitter is rated.

#### Proposal

11. From the foregoing, it appears that our present rules §§ 83.444(a) and 83.446(b) are inadequate to implement Section 355(e) of the Communications Act. Due to variables relating to antenna efficiency and design it is insufficient to specify simply the output power of the transmitter as the means to assure the required communications range. Clearly there are both vertical and long-wire antennas on the market as well as improved methods of installation which will enable vessels to meet a field strength standard, rather than an output power standard.

12. Accordingly, we propose to amend § 83.444(a) of the Commission's rules to require that all vessels of 1,600 gross tons and over, fitted with a radiotelegraph installation as required

<sup>1</sup> FCC 365, adopted July 26, 1939.

<sup>2</sup> This was based on the average antenna efficiency of the 80 vessels measured in 1938.

<sup>3</sup> These include geographical noise levels, signal to noise ratios and propagation characteristics.

<sup>4</sup> A copy of the measurement data, prepared by the Commission's staff, has been placed in the docket folder of this proceeding.

<sup>5</sup> Measured input power 750 watts, measured field strength at 1 nautical mile 82 mV/m; measured input power 65 watts, measured field strength at 1 nautical mile 34 mV/m; using the ship's main transmitter and antenna.

<sup>6</sup> It is appropriate to note that the system which delivers the power from the transmitter to the antenna (coupling and transmission line system) is an essential and integral part of the overall system and must be efficient if substantial power losses are to be avoided.

by Title III, Part II of the Communications Act, produce a field strength on the frequency 500 kHz of 300 mV/m at a distance of one nautical mile, using the main antenna and main transmitter. Further, we propose to amend § 83.444(a)(2) to require that the reserve antenna and reserve transmitter produce a field strength on the frequency 500 kHz of 10 mV/m at a distance of 1 nautical mile. Additionally we propose that implementation of this requirement be completed within a period of three years.

13. We recognize, however, that a specific field strength figure, such as 30 mV/m or 10 mV/m, is derived from assumptions, averages and calculations which may be subject to reevaluation in light of transmitter improvements or other factors. Therefore, we will consider comments as to what alternative criteria should be established (if indeed any need be) to assure the ability of compulsory-fitted vessels to transmit a clearly perceptible signal the required distances. We will also consider a program of self-certification as an alternative method by which a vessel may demonstrate that its radio installation transmits a clearly perceptible signal the required distances. Thus, we specifically request comment as to the feasibility of a procedure whereby a vessel would periodically conduct actual test transmissions to another vessel, located the statutory distance away, and retain evidence in its station records of the successful communication of a clearly perceptible signal to that other vessel.

14. The proposed amendment to the Commission's rules as set forth in the attached Appendix is issued under the authority contained in Sections 4(i) and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i) and 303(r).

15. Under the procedures set out in Section 1.415 of the Rules and Regulations, 47 CFR 1.415, interested persons may file comments on or before February 28, 1983, and reply comments on or before March 15, 1983. All relevant and timely comments will be considered by the Commission before final action is taken in this proceeding. In reaching its decision, the Commission may take into consideration information and ideas not contained in the comments, provided that such information or a writing indicating the nature and source of such information is placed in the public file, and provided that the fact of the Commission's reliance on such information is noted in the Report and Order.

16. In accordance with the provisions of § 1.419 of the Rules and Regulations,

47 CFR 1.419, formal participants shall file an original and 5 copies of their comments and other materials.

Participants wishing each Commissioner to have a personal copy of their comments should file an original and 11 copies. Members of the general public who wish to express their interest by participating informally may do so by submitting one copy. All comments are given the same consideration, regardless of the number of copies submitted. All documents will be available for public inspection during regular business hours in the Commission's Public Reference Room at its headquarters in Washington, D.C.

17. For purposes of this non-restricted notice and comment rulemaking proceeding, members of the public are advised that *ex parte* contacts are permitted from the time the Commission adopts a notice of proposed rulemaking until the time a public notice is issued stating that a substantive disposition of the matter is to be considered at a forthcoming meeting or until a final order disposing of the matter is adopted by the Commission, whichever is earlier. In general, an *ex parte* presentation is any written or oral communication (other than formal written comments/pleadings and formal oral arguments) between a person outside the Commission and a Commissioner or a member of the Commission's staff which addresses the merits of the proceeding. Any person who submits a written *ex parte* presentation must serve a copy of that presentation on the Commission's Secretary for inclusion in the public file. Any person who makes an oral *ex parte* presentation addressing matters not fully covered in any previously-filed written comments for the proceeding must prepare a written summary of that presentation; on the day of oral presentation, that written summary must be served on the Commission's Secretary for inclusion in the public file, with a copy to the Commission official receiving the oral presentation. Each *ex parte* presentation described above must state on its face that the Secretary has been served, and must also state by docket number the proceeding to which it relates. See generally, § 1.1231 of the Commission's rules, 47 CFR 1.1231.

18. We have determined that Sections 603 and 604 of the Regulatory Flexibility Act of 1980 (Pub. L. 96-354) do not apply to this proposed rulemaking proceeding because the only vessels affected are large oceangoing vessels compelled by law to be fitted with radiotelegraph equipment meeting certain specified standards. The operation of a single such vessel typically runs into many millions of dollars per year. Therefore, if

promulgated, it will not have a significant impact on a substantial number of small entities.

19. Regarding questions on matters covered in this document contact Walter E. Weaver (202) 632-7175.

(Secs. 4, 303, 48 stat., as amended, 1066, 1082; 47 U.S.C. 154, 303.)

Federal Communications Commission,  
William J. Tricarico,  
Secretary.

#### Appendix

It is proposed to amend Part 83 of Chapter I of Title 47 of the Code of Federal Regulations as follows:

#### Part 83—Station on Shipboard in the Maritime Services

Section 83.444(a) is amended by removing the first sentence and replacing it with the following:

##### § 83.444 [Amended]

(a) The main antenna shall be as efficient as is practicable. It shall be installed and protected so as to ensure proper operation of the station. Effective (3 years), the main antenna energized by the main transmitter on the frequency of 500 kHz shall produce at one nautical mile a minimum field strength of thirty (30) millivolts per meter.\*

2. Paragraph (a)(2) of § 83.444 is revised to read as follows:

##### § 83.444 Requirements of reserve installation.

(a) \* \* \*

(2) The reserve antenna shall be as efficient as is practicable. It shall be adequately installed and protected so as to ensure proper operation in time of an emergency. Effective (3 years), the reserve antenna energized by the reserve transmitter on the frequency of 500 kHz shall produce at one nautical mile a minimum field strength of ten (10) millivolts per meter.

FR Doc. 83-3864 Filed 2-2-83; 8 45 am]  
BILLING CODE 8712-01-24



Before the  
Federal Communications Commission  
Washington, D. C. 20554

RECEIVED

FEB 28 1983

FCC  
Office of the Secretary

In the matter of )  
Amendment of Part 83 )  
of the Rules to )  
require compulsory )  
telegraph vessels to be )  
capable of generating a )  
specified minimum field )  
strength at a distance of )  
one nautical mile )

PR Docket No.  
83-11

Comments of the  
American Institute of Merchant Shipping

The American Institute of Merchant Shipping (hereinafter referred to as "AIMS"), respectfully submits these comments in response to the Federal Communications Commission's (Commission) Notice of Proposed Rulemaking wherein the Commission has proposed to amend Part 83 of the rules to require compulsory telegraph vessels to be capable of generating a specified minimum field strength at a distance of one nautical mile.

Preliminary Statement

1. AIMS is a national trade association comprised of 29 member companies which own, operate or charter the majority of United States flag oil and chemical tankers and other bulk carriers operating in the foreign and domestic trades.

2. AIMS strives to make its members' views known to several Congressional committees, their members and to the far more numerous departments and agencies that have legislative and regulatory interest in maritime affairs. AIMS, therefore, acts as a voice for our members in many activities of concern to the shipping industry. One of these activities pertains to maritime communications.

3. AIMS Communications/Navigation Systems Committee is concerned with implementing and improving methods of communications that will enhance safety of life at sea for the crew, the vessel and its cargo. These are paramount concerns of AIMS. Therefore, AIMS appreciates the opportunity to offer comments in response to the Commission's proposal in this docket.

#### Summary of the Commission's Proposal

4. In this Notice of Proposed Rulemaking, the Commission proposes to amend Part 83 of the rules to require that all compulsory telegraph vessels be capable of generating a minimum field strength of 30 millivolts per meter (mV/m) for the main installation and 10 mV/m for the reserve installation at a distance of one nautical mile on the international distress and calling frequency 500 kHz.

5. Title III, Part II, Section 355(e) of the Communications Act of 1934, as amended, sets forth the distances over which

vessels of 1600 gross tons and over must be capable of communicating. The distances are as follows:

"(e) The main and reserve installations shall, when connected to the main antenna, have a minimum normal range of two hundred nautical miles and one hundred nautical miles, respectively; that is they must be capable of transmitting and receiving clearly perceptible signals from ship-to-ship by day and under normal conditions and circumstances over the specified ranges."

6. In 1939, the Commission recognized that a ship station meets the statutory range requirements of Title III, Part II of the Communications Act if the field strength of its signal, at one nautical mile, is 30 mV/m.<sup>1</sup>

7. Furthermore, in the course of considering the efficiencies of antennas when in use, it was concluded that this field strength could be produced by a transmitter delivering 200 watts to the antenna. This adopted rule is described in Section 83.552(b). Similar values for the reserve installation were determined, 10 mV/m and 25 watts, respectively. See 83.533(b) of the rules.

8. Citing the use of single-wire antennas that were used during the test that eventually established the field strength standards in 1939, the Commission has asserted that

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<sup>1</sup> Docket 5212, 7 FCC, 365, adopted July 26, 1939.

the use of vertical antennas has facilitated a progressive decline in the efficiency of antennas aboard vessels of 1600 gross tons and more. In the Commission's opinion, this situation has deteriorated to a point where the use of 200 and 25 watt transmitters in conjunction with presently used vertical and some long-wire antennas no longer assures a field strength of 30 mV/m and 10 mV/m at a distance of one nautical mile. After recent testing, which seemed to corroborate this assertion, the Commission is proposing to amend 83.444(a) and 83.446(b) in order to meet the mandate of the Communications Act. Accordingly, Section 83.444(a) of the Commission's rules are proposed to be amended in order to require that all vessels of 1600 gross tons and over, fitted with a radiotelegraph installation as required by Title III, Part II of the Communications Act, be capable of producing a field strength of 30 mV/m at a distance of one nautical mile on the frequency 500 kHz, using the main antenna and main transmitter. Further, the Commission proposes to amend Section 83.444(a)(2) to require that the reserve antenna and reserve transmitter produce a field strength on the frequency 500 kHz of 10 mV/m at a distance of one nautical mile. Additionally, it is proposed that implementation of this requirement be completed within a period of three years.

#### Issues Presented

9. In this proceeding, the Commission indicated its desire to receive comments pertaining to alternative criteria

that could be used to assure the ability of compulsory-fitted vessels to transit a clear perceptible signal that meets the mandate of the Communications Act. More specifically, the Commission has indicated a desire for comments as to the feasibility of a procedure whereby a vessel would periodically conduct transmission tests and retain evidence in its station records that indicate the successful communication of a clearly perceptible signal.

10. AIMS is pleased that the Commission intends to follow the spirit of mandating government regulations that offer a cost effective contribution to safety. After careful consideration, AIMS' Communications/Navigation Systems Committee has developed comments pertaining to possible alternatives that meet the requirements of the Communications Act. Before elaborating on these points, however, we feel that there is a need to put the proposed rulemaking into proper perspective with other pertinent developments in marine communications.

11. The International Maritime Organization (IMO) intends to introduce in 1990 a new and improved safety and distress communications and procedures, in conjunction with a coordinated search and rescue infrastructure that takes advantage of technological advances in order to improve safety of life at sea. In AIMS' opinion, this Future Global Maritime Distress and Safety System (FGDMSS) far exceeds the safety benefits derived from the traditional means of radio communications,

radiotelegraphy. In fact, past failures to successfully execute rescue (by 500 kHz) were instrumental in raising concern internationally about the adequacy and the effectiveness of this distress and safety communication, thus one of the compelling reasons for the prompt development of a new system. Plans have been established to implement the new system by 1990, and by 1987 voluntary fitting of the equipment is anticipated. This system, of course, does not intentionally include radiotelegraph because of superior methods of distress calling by satellite or terrestrial communications.

12. The Commission has already taken recent steps that parallel these international deliberations in its Report and Order released on February 24, 1982, relating to the grant of a general exemption from the radiotelegraph requirements pursuant to Section 352(b)(2) of the Communications Act of 1934. The Commission's Report and Order noted the IMO proposal that would move the international maritime community away from reliance on outmoded ship-to-shore and ship-to-ship communications by means of more advanced technologies. In fact, the Commission concluded that "a substitution of terrestrial radiotelephony, satellite, and narrow-band direct printing equipment instead of manual radiotelegraphy equipment is fully consistent with modern concepts of structuring maritime distress systems, such as planned by the FGMDSS, and, in our view, will provide an effective safety communications system prior to the transition period to the FGMDSS. In essence, the FGMDSS calls

for an integrated maritime communication system consistent with the approach adopted by the FCC's Report and Order.

13. The development of the FGMDSS and its early implementation, coupled with the Commission's progressive steps to promote more efficient communications as codified under 83.480 of the rules, leaves AIMS skeptical over the actual benefit of this proposed rulemaking. As proposed, "effective three years, the main antenna energized by the main transmitter on the frequency of 500 kHz shall produce at one nautical mile a minimum field strength of 30 mV/m." This closely coincides with the voluntary fitting of the FGMDSS equipment by vessel operators, which, in essence, would result in redundant, superfluous communications equipment. In our opinion, this situation offers a minimal return on a cost effective contribution to safety, especially since little evidence exists to corroborate a scenario that a maritime distress incident was facilitated as a result of antenna strength.

14. AIMS notes with interest the description of the system used on the cargo vessel "STAR OF TEXAS." We must point out, however, that the transmitter used on this vessel has been type approved with a 50 ohm output impedance and is the only such transmitter available on the market. The implications that transmitters used by the vast majority of U. S. flag vessels could be modified to utilize this type of feed

/

system is misleading. Until recently, all 500 kHz transmitters were type approved with output impedance of 2 to 10 ohms and cannot be modified without extensive redesign and new type approval. Again, the cost incurred on behalf of shipowners to replace the existing transmitters and antenna feed systems would not, in our opinion, be a cost effective contribution to safety.

15. AIMS suggests that the radio station log can be used as a mechanism to verify the vessel operator's compliance with the mandate of the Communications Act. The general practice for most U. S. flag vessels is to steam at 10-15 knots. When these vessels are within 24 hours steaming time of a port, communication with a coast station is made, and this range exceeds 200 nautical miles. These transmissions are, by statute, entered into the ship radio station log. For operational reasons, as well as for safety reasons, shipping companies insist that the MF radio be maintained to a level which will ensure this minimum capability. We therefore submit to the Commission that the radio station log provides proof of compliance with the statute, which can be obtained during the Annual Radiotelegraph Safety Certificate inspection.

16. AIMS urges that the Commission exercise this counter-proposal to ensure that flexibility is utilized which allows vessel operators the ability to meet the compliance of the statute.

Respectfully submitted,



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## Reference D

USNS SEALIFT ANTARCTIC

SATCOM Maintenance Log

W. D. Ridout, Radio Officer

5-6-83 Location Souda Bay Crete. 0800Z MARISAT inoperative due to heat in Radio Room. Unable to receive or pass MSC traffic until MARISAT opened up and fan used to cool down. Then MARISAT operating intermittently. This condition existed until night time when outside temps dropped, then MARISAT again operating OK. Time: approximately 1600Z MARISAT unreliable for approximately 8 hours. WDR

NOTE: W.M. Ridout, R/O joined USNS SEALIFT ANTARCTIC on 2/8/83 in Todd Shipyard Galveston, TX. Upon sailing from shipyard found MARISAT voice inoperative then intermittent probably due to heat fluctuation in radio room. Also found that ship's heading readout was not following gyrocompass though antenna tracked OK. Replaced voice modulator/demodulator PCB and voice operations became normal. Ordered PCB A-10 (position display board) to correct heading problem. This A-10 was requisitioned 2/26/83 (mailed) and again via telex 4/29/83; both directed to Marine Transport Lines but to date (5/7/83) have not received A-10 PCB. Also have experienced some down time during the past 3 months when ship's stack blocks satellite path to antenna. Blockage occurs somewhere around 112 to 140 degrees relative, depending on antenna elevation. Will log this blockage downtime in the future. WDR

5-13-83 1130Z - 1430Z: MARISAT inoperative due loss of antenna lock while signal being blocked by stack. Holding MSC traffic until vessel can come up on another course (approaching Gibraltar)

5-19-83 1415Z MARISAT inoperative due to heat. Cut itself off while sending MSC traffic. Cooled down in about 15 minutes and then continued with MSC traffic.

6-9-83 1600Z to 2005Z: MARISAT inoperative due to heat rise in radio room. Unable to send or receive traffic. Unit opened and fan used to reduce inside temperature of MARISAT. Operating normal at 2005Z.

6-10-83 0900-1730Z: MARISAT inoperative due to satellite blockage from stack, mast, etc. Also have temperature rise in radio room. Have traffic waiting to go. Blockage is normal here when ship is in Mediterranean on an easterly course. MARISAT will be OK tonight when it cools down and we have a course change. Room temperature 88 degrees Fahrenheit.

NOTE Still awaiting PCB A-10. Ship's heading readout still inoperative.

7-15-83 Telex section of MARISAT inoperative due to teletype stunt box in ICU. Phone operation OK. Stunt box ordered by SITOR. Hope to receive St. Theo 7/19/83. Presently MARISAT telex operations secured and both Marine Transport Lines and Military Sealift Command notified.

7-20-83 Installed teletype stunt box and restored teletype operation to normal.

— This date MARISAT was unusable due to terminal constantly receiving busy signal which later was contributed to a malfunctioning terminal in the MARISAT system. During this latter period ships traffic was sent via SITOR.

8-4-83/  
8-5-83

MARISAT inoperative due faulty teletype printer. Traced trouble to faulty motor governor. Set teletype motor to approximately 3600 RPM. This restored teletype printer operation. Problem of printer operating too fast or losing power completely. May return, in which case motor governor should be replaced and speed set with a tuning fork. There is no tuning fork on board. While MARISAT is inoperative ship send all traffic via SITOR.

8-6-83 Received for MARISAT the PCB A-10 (position display board) on 8/1/83 in St. Theo Greece. I installed same 8/6/83 and now all readouts on position display board in ACU appear normal. This is board that I ordered originally on February 26, 1983. Took almost 6 months to get here.

8-7-83 MARISAT inoperative. Teletype printer operating erratic -- jamming and printing in upper case only when receiving.

8-8-83 Found motor (drive) speed too fast. Carriage assembly had slight hang up at two points on riding bar. Oiled and freed up all bearings (6) on carriage assembly plus one nylon pulley post was sticking (oiled). After getting carriage assembly operating smoothly, then set governor speed and ranging adjustment. These latter two adjustments made by using stop watch and "the quick brown fox etc." print out. MARISAT teleprinter then operating normal. Motor speed should be 3600 RPM but have no tuning fork here. Must be set reasonably close to operate OK, however it runs slightly slower (via stopwatch) than the SITOR teletype machine. I suspect drive motor governor contacts will be a source of trouble in future and most probably machine will have to be changed out or at least new governor installed. 8/9/83 MARISAT operating normal -- WDR.

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## MARINE SAFETY PROGRAM

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THURSDAY, SEPTEMBER 29, 1983

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON COAST GUARD AND NAVIGATION,  
COMMITTEE ON MERCHANT MARINE AND FISHERIES,  
*Washington, D.C.*

The subcommittee met, pursuant to call, at 10 a.m., in room 1334, Longworth House Office Building, Hon. Walter B. Jones (chairman of the subcommittee) presiding.

Present: Representatives Jones, Biaggi, Studds, Carper, Young, Snyder, and Forsythe.

Staff present: Bill Woodward, Duncan Smith, Suzanne Bolton, Gina DeFerrari, Andy Schwarz; Sandy Holt, Cher Brooks, Brooks Bowen, John Cullather, Bob Kurrus, Shelia Pugh, Ric Ratti, Rudy Cassani, Ann Mueller, Gerry Seifert, and Ed Welch.

Mr. JONES. The subcommittee will come to order, please.

The hearing this morning will conclude a set of four hearings which collectively represent a significant attempt to identify and understand a broad category of issues concerning maritime safety. While it is apparent that the U.S.-flag fleet is safe relative to the fleets of other maritime nations, our ships do go down and lives are lost. Actions which can reasonably be taken to reduce these tragedies must be taken. That is why the subcommittee has held these hearings and that is why I have introduced H.R. 3486, the Maritime Safety Act of 1983.

Evidence gained from these hearings does not necessarily indicate that drastic safety problems exist. Nevertheless, it is clear that we have problems: Government policies and maritime subsidy programs seem to encourage operation of old and relatively unsafe vessels past their normal service lives; life-saving and communications equipment aboard some of our ships may not be adequate to save lives; vessel reporting systems are not sufficient to identify possible emergency situations; and finally, the Coast Guard's vessel inspection program appears to need realignment to insure that all compulsory vessels are adequately inspected only by qualified personnel.

In order for maritime safety to be substantively promoted, I believe that all groups—industry, operators, and Federal agencies—must make an effort to improve their own operations. H.R. 3486 is intended to facilitate this, in part, by insuring that owners and operators will take greater responsibility for their own vessels, with respect to inspections and vessel reporting.

Our aim has been to devise legislation which will not be burdensome to the maritime industry. In order to give full consideration

to industry concerns, committee staff has met with a representative cross section of all interested groups. We have received valuable input from these groups and also from the Coast Guard and the Federal Communications Commission. This input will certainly be considered as we proceed to mark up H.R. 3486.

I would like to welcome all those witnesses who have made themselves available here today, and I look forward to a productive hearing.

And at this point, if there is no objection, I would like to enter into the record the statement of the gentleman from New York, Mario Biaggi, who I believe is having breakfast with Secretary Dole, and therefore is absent at the present time.

[The statement of Mr. Biaggi follows:]

STATEMENT BY HON. MARIO BIAGGI, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

We are meeting today for the fourth and final day of oversight and legislative hearings to consider a number of maritime safety issues that have been raised as the result of three maritime tragedies—the freighter *Poet*—the mobile drilling unit *Ocean Ranger*—and the *Collier Marine Electric*. These casualties led Chairman Jones to introduce legislation in the form of H.R. 3486, to promote maritime safety on the high seas and the navigable waters of the United States.

Testimony has been received on the casualties themselves, various failures of the Coast Guard—certain failures of the American Bureau of Shipping—failures of the ship's officers and crewmembers—and failures of the owners and operators. A broad spectrum of witnesses have provided a number of suggestions and they will certainly help us in our deliberations. However, at this time I would like to highlight the issue of responsibility.

Too many are often too prone to immediately criticize the regulators—in this case the Coast Guard—when most tragedies—whether occurring at sea, in the air, or on land—directly relate to the actions that an owner or operator should have or should not have taken. While the testimony highlights a number of failures we must never for a moment lose sight of the fact that the ones who bear ultimate responsibility for the safety of vessels and the protection of seafarers are the owners—operators—charterers—masters—and those others who are involved in the vessel's day-to-day operations.

I would also like to comment on another closely related issue. These hearings seem to be merging the causes of these casualties with certain failures on the part of the Coast Guard so as to be condemning. This, I believe, is unfair since the cause of the *Poet* disaster is unknown and speculative at best—the cause of the *Ocean Ranger* disaster is primarily the result of improper ballasting—and the cause of the foundering of the *Marine Electric* is still under active investigation by experts.

There is no doubt that we have a responsibility to see that all of the cited failures are eliminated. This committee is committed to the maintenance of high safety standards for our vessels and for those who go to sea to earn a living. Hopefully, we will hear from the Coast Guard as to what they are doing and what they require to carry out their marine safety responsibilities in a thorough and competent manner. Hopefully, others will provide us with the input to consider related safety issues in a practical and efficient manner.

In conclusion, Mr. Chairman, I am looking forward to hearing some constructive testimony from a number of remaining interested parties. I thank you.

Mr. JONES. Also I will ask unanimous consent to enter the statement of Congressman Young of Alaska at this point in the record, as well as the ranking minority member of the full committee, Congressman Ed Forsythe. Without objection those statements will be entered in the record at this point.

[The statement of Mr. Young follows:]

**STATEMENT BY HON. DON YOUNG, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ALASKA**

Mr. Chairman, today we are conducting a fourth in this series of oversight hearings on the Marine Safety Program of the Coast Guard and its impact on the maritime industry. I am glad to see we have included the Commandant, Admiral Gracey, and his Chief of the Merchant Marine Safety Office, Rear Admiral Lusk. This will give them an opportunity to sum up the Coast Guard's Marine Safety Program and respond to some of the comments and suggestions we have received during the course of these hearings.

Maritime safety is without question a top priority. My feeling is, however, that we must balance this with an understanding that dangerous conditions and risks exist in this important industry. New laws or regulations alone are not the answer. We must consider carefully the role of both the Government and the private sector in bringing about safe conditions and a strong merchant marine. These hearings will give us a better understanding of what is needed to get to these goals as well as permit us to modify, if necessary, the legislation we are considering, such as the Chairman's bill, H.R. 3486, the Maritime Safety Act of 1983.

Mr. Chairman, again I welcome the Commandant and all of the other distinguished witnesses we will be hearing today, and I look forward to working with you in this important area.

[The statement of Mr. Forsythe follows:]

**STATEMENT BY HON. EDWIN B. FORSTHE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY**

Mr. Chairman, the three hearings held by this Subcommittee on the topic of maritime safety have been quite informative, and have supported the need for several statutory amendments and several administrative actions to enhance maritime safety in the U.S.-flag merchant fleet. I support strongly the principal objectives of H.R. 3486.

One aspect of H.R. 3486 has generated some controversy—I refer to Section 4 of the bill, which would allow the Coast Guard to take action against a pilot's Federal license, based on incidents occurring while the pilot was operating under authority of his state pilot license. The objective of Section 4—to get unfit pilots off the water—seems beyond dispute. The pilot associations and state pilot licensing boards, however, say that Section 4 is not necessary and, in any event, will not significantly improve maritime safety.

This morning, I plan to ask Admiral Gracey and Admiral Lusk to explain more fully, for the hearing record, how the United States came to have the complicated, dual Federal and state pilot licensing systems that now exist. I also plan to explore whether there really is a national problem with the state licensing boards failing to oversee the performance of state pilots, and if so, how Congress can best act to correct the problem. Thank you, Mr. Chairman.

Mr. JONES. Our first witness this morning is the Commandant of the U.S. Coast Guard, Adm. James S. Gracey.

Admiral Gracey, we are delighted to have you here this morning, and again want to commend the Coast Guard on the very fine job it historically does.

**STATEMENT OF ADM. JAMES S. GRACEY, COMMANDANT, U.S. COAST GUARD, ACCOMPANIED BY REAR ADM. CLYDE T. LUSK, CHIEF, OFFICE OF MERCHANT MARINE SAFETY, U.S. COAST GUARD**

Admiral GRACEY. Thank you, Mr. Chairman.

Mr. JONES. You may proceed, sir.

Admiral GRACEY. Thank you, sir.

Mr. Chairman, I don't have a formal statement this morning, but I do have some introductory remarks that I would like to make, if I may go through that, sir.

We in the Coast Guard, particularly those who are involved in the commercial vessel safety program, as you well know, review

plans, oversee new construction and inspect vessels, license mariners, investigation and analyze casualties, initiate administrative penalties and action against licenses, develop and promulgate regulations, strive for effective and uniform international maritime safety and do our best to implement the statutes you have enacted.

We are proud of our program and are convinced that it is responsible for a safety record that is enviable among our trading partners and deserving of the position of leadership it enjoys in the world community. I would like to insert at this point, Mr. Chairman, and correct an omission I made. I am also very proud of the leadership of that program, which is Rear Adm. Clyde Lusk, whom I know you know, and Admiral Lusk is here with me today.

We are seafarers, Mr. Chairman. And we are tortured by the casualties that occur. We do our best to mitigate the effect of those casualties with our search and rescue system; and by investigating to determine their causes, we try to find ways to prevent recurrence. We do not suggest, Mr. Chairman, that our preventive program guarantees total freedom from casualties. In fact, we believe that the state of the art in marine safety and inherent risks of going to sea in ships precludes such total freedom without a regulatory regime so burdensome as to virtually eliminate a U.S. fleet.

We have a mandate to facilitate marine transportation as well as to address its safety and efficiency. Using the processes required by the Administrative Procedures Act, we do our best to promulgate cost beneficial regulations to enhance safety. But there are still casualties, and they cause us to challenge our regulatory decisions.

To supplement the efforts of our inspectors in determining deficiencies that would affect safe operation during periods of the validity of the certificate, we place no small degree of reliance upon the owners, operators, licensed officers, classification society surveyors, and others who are a part of the safety system that has evolved over the years. We have felt that the redundant responsibility of the various players justifies that degree of reliance as in the case of our policy to allow inspectors normally to accept a valid load line certificate issued by the American Bureau of Shipping as evidence of compliance with the load line regulations.

We have a comprehensive inspector training program that we are continually modifying to stay abreast of changes in the industry, and what I suggest is as impressive a group of maritime safety trained individuals in our inspector stable as exists in the world. I have prepared a brief summary of our inspectors' credentials indicating average experience, training, postgraduate achievements, and other such details, as well as contemplated changes to our training program.

With your permission, Mr. Chairman, I will leave that summary with your staff. But I would like to give you just a few highlights so you will have a flavor of what I am talking about.

We have in the combined captain of the port/port safety merchant marine safety program 1,088 commissioned officers; 603 of them work directly in the commercial vessel safety program. That is the number currently assigned in that program at the moment. Officers in this microcosm of our service have earned 400 graduate degrees. That is, out of the 1,088 we have 400 graduate degrees, 41 doctoral or advanced professional degrees, and we include in that

number many from merchant marine academies and 79 who have spent extensive time being trained directly in the merchant marine industry.

The merchant fleet of the United States is older than the fleets of our major trading partners. Increased age does bring with it maintenance and inspection challenges but not, I suggest, the inevitability of unsafe conditions. We have felt that instructions to our field offices with regard to inspecting older vessels has been such as to afford proper determination of condition and correction of defects that might render the vessel ineligible for continued certification.

In the aftermath of the *Marine Electric* casualty, notwithstanding the fact that the cause of the casualty has yet to be finally determined, we initiated an audit of our program of inspecting older vessels. This audit started during April of this year and included direction to our field office to forward to headquarters for review the inspection files of selected vessels.

The audit effort was expanded when we required those offices to notify us of any inspection schedule to be conducted on vessels of more than 20 years of age. Our traveling inspector program, an audit mechanism that employs several of our most senior and most experienced inspectors, was directed to focus upon the inspection of older vessels and to accompany our field inspectors during as many such inspections as was feasible.

So far during this audit, Mr. Chairman, traveling inspectors have accompanied our field inspectors during 16 such inspections, and their findings have done much to reassure us of the effectiveness of our program of inspection and of the adequacy of that program for older vessels. Problems have been identified. But disregard of your safety mandates, even remotely approaching the degree suggested by some who have generalized in the aftermath of the tragic loss of the *Marine Electric* simply does not exist.

Uninformed statements such as one to the effect made before you that the last inspection—quotes—“of the *Marine Electric* lasted only 15 minutes, that it was by a young person, and that it was confined to checking charts on the bridge” made good news copy while feeding the fires of doubt regarding the quality of our inspectors. Regrettably, less well publicized are the proper facts. In the *Marine Electric* case the visit alluded to was to check with compliance of specific charter mandates regarding charts. It was not to inspect the vessel itself. Such visits are not even a part of our commercial vessel safety program for inspecting vessels. It is a part of our port and waterway safety regulations under the captain of the port program.

*Marine Electric* and *Ocean Marine* casualties did occur and they were caused by failure somewhere in the system. We will learn from those casualties as we have from others in the past. Fine-tuning the system may be necessary. Incidentally, when I say there was a failure in the system, I mean in the overall system, somewhere in the great scope of people who are involved with redundant responsibilities. Somewhere, obviously, there was a failure of some kind. We have yet to find out what that was.

Our marine safety system is one where hard working, dedicated, trained personnel work toward a common goal in keeping with

your past and, I assure you, your future mandates. I look forward to answering your questions, and it is a pleasure to be with you this morning, Mr. Chairman.

Mr. JONES. Thank you, Admiral. I will say to the two members who came in after we had convened the subcommittee that the admiral did not have a formal statement as such, but is subject to questions at your pleasure.

Admiral, before the new title 46 was passed almost all inspection violations were limited to a flat \$500 penalty. The new title 46 penalty provisions increases this to \$1,000. As you know, H.R. 3486 substantially increases this penalty to \$5,000 per day of violation. Do you support increasing inspection violation penalties from a flat \$1,000 to \$5,000 per day?

Admiral GRACEY. Yes, sir. I think that is a good thing to do.

Mr. JONES. If the inspection penalty goes up to \$5,000, should the negligence penalty also go up to \$5,000 in your opinion?

Admiral GRACEY. I would have no objection to that, Mr. Chairman. I think probably if one goes up, the other should, too. They are both aimed at the same basic end result.

Mr. JONES. All right, sir. Do you think that \$10,000 per day civil penalty for operating without a current certificate of inspection is adequate?

Admiral GRACEY. Yes, sir.

Mr. JONES. Do you think it is too much, or would you prefer \$5,000 per day?

Admiral GRACEY. I think \$10,000 is a reasonable figure. We are talking about a rather significant deviation from what has been perceived as the necessary weapon or means of making sure people are conscientious about following our safety rules. We do have, since this is a civil penalty, Mr. Chairman, the option of mitigating the penalty to fit circumstances at the time. It doesn't have to be, it shouldn't be a mandatory \$10,000. That is an upper limit I assume. And if the circumstances don't warrant it, if it wasn't flagrant enough, obviously we wouldn't assign that kind of penalty.

Mr. JONES. What are your comments about section 3 of H.R. 3486 which requires an owner to notify the Coast Guard if more than 48 hours has elapsed without hearing from his vessel?

Admiral GRACEY. I think it is a good thing to do, Mr. Chairman. I think we should be notified.

Mr. JONES. Admiral, what is the status of the Coast Guard flagging system which we asked you to set up over 2 years ago?

Admiral GRACEY. Mr. Chairman, before I speak to the AMVER may I go back and expand a bit on my answer to your previous question about the 48 hours?

Mr. JONES. You may.

Admiral GRACEY. I think the concept about having them report to us, have the vessel reporting in every 48 hours is excellent. I think that the burden should be on the owner at that point to try to contact the vessel. I am a little gun shy about what will happen in terms of the numbers of false "uncertainty phases" we will create for the Coast Guard if they are automatically reported to us at that point.

I think the owner should be required to make contact. If he is unable to do so, or if he has any other reason to believe that his



vessel is in trouble, obviously we want to be notified right away. We would then go, we have an escalating sequence of things we do for such cases.

The AMVER flagging business study was, Mr. Chairman, completed in November 1982. At that time I think we briefed some of your staff, and we delivered a draft of the final report. We failed to tell you that the draft became the final report, and that it is feasible to have such a system. There would have some side benefits for search and rescue for us, and others as well. We think you know of that the AMVER and USMER systems merged in August, and since that merge, we are looking at ways to implement an AMVER flagging system.

Mr. JONES. Admiral, how can the Coast Guard inspectors adequately develop expertise in vessel inspection when the Coast Guard and military system rotates them out of their locations so often? The tour of duty is what? Two, or four years in the inspection service?

Admiral GRACEY. Well, Mr. Chairman, it varies. I need to give you a multiple answer to that question. There are—first of all, I want to tell you we don't rotate our people as rapidly as everybody seems to think we do. There was a time back in the late 1970's when our merchant marine safety program was in a bit of a state of flux. At that point we were losing the older experienced officers who had come in under the old Public Law 219 program. They had their 30 years service and were retiring. It was a block kind of thing.

Mr. JONES. They came in as civilians into the military did they not?

Admiral GRACEY. No, sir, not that group. They were experienced merchant marine officers who came into the Coast Guard and were commissioned. They were trained at Officer Candidate School and were commissioned directly.

Mr. JONES. All right, sir.

Admiral GRACEY. This was in 1949-50, I believe. So they were all reaching their retirement age. We had also merged our captain of the port program, port safety program and commercial safety programs into our Marine Safety Offices. We had a massive increase in regulations, and so forth, stemming from the 1977 debacle of ships running aground and spilling oil all over the place. We also were having retention problems throughout our service at that point.

Furthermore, the industry points of focus were shifting around. The combination of all those things led us to somewhat of a state of upheaval. We were training new people, trying to accommodate all those things. But that is ancient history. We have since extended our tours of duty for personnel in these assignments. We have stabilized the program. We have really beefed up our training program. And we have just recently made additional improvements to our training program.

I have described to you the kinds of qualifications our people have in terms of professional expertise. One of the things I think gets lost in analyzing the impact of our military rotation policy is that it is not all bad. In fact, I feel very strongly that it is good. Why? First of all, it provides a cross-pollination of ideas.

An officer, inspector, will serve in San Francisco for 4 years and will often go to another similar kind of a command at another port. And when he does, the old sailors bit about "how that isn't how we did it in the 12th" comes into play. What was industry practice in one part of the country, now gets cross-pollinated in another part of the country and overall we learn a great deal. We keep the ideas fresh. Our people continue to grow. We are developing future leadership in this program.

We are recognized around the world as a military organization with a great deal of expertise. So I think the answer to the question is I am not sure rotation is bad for the professional expertise, Mr. Chairman. I think it is good for it, as long as it is reasonably stable.

Mr. JONES. Admiral, when a foreign-built ship is converted to a U.S. flag, must the life-saving equipment be approved by the Coast Guard?

Admiral GRACEY. Yes, sir. But not necessarily to U.S. standards per se. We accept SOLAS standards. It must be approved actually by a SOLAS signatory. What we do is look for equivalents, rather than precise literal matching of requirements.

Mr. JONES. Are you saying that you do accept substandard equipment on foreign flag vessels coming in under our flag?

Admiral GRACEY. No, sir. Substandard? No way. What I said was that we accept equipment approved by another Safety of Life at Sea signatory and which we consider equivalent to our equipment. We have a detailed set of criteria for our field inspectors.

Mr. JONES. Now that you have lost the lawsuit on third-party inspections of liferafts, when do you propose rulemaking which would allow third-party inspections of liferafts in foreign countries? Have you received any pressure from U.S. trade negotiators to allow third-party foreign inspections? Finally, when a foreign country is competing with the United States to sell liferafts and lifeboats do you think it is possible one of these foreign countries might hedge on their inspections in order to better market their equipment? That is a series of questions, sir.

Admiral GRACEY. Yes, sir, I am familiar with the whole situation. I think that what happened in that business, Mr. Chairman, we had intended to go this route all along. I don't think we did a very good job of notifying people far enough in advance. It was there but it was easy for us to know it was there because we knew what we meant. But we didn't do a good job of conveying it.

It is always possible, I suppose, that someone will try to hedge to further the marketing of their national products. But I don't have any reason to believe, Mr. Chairman, that the classification societies and approval organizations of responsible countries with whom we deal would get involved in that any more than we would. We are talking about people who are of high stature in the world. We are not accepting fly-by-night agencies' review of these things. If we thought it was that kind, if they were that kind of people, we were getting that sort of thing, we simply wouldn't include them in the list.

Mr. JONES. Admiral, thank you very much. You have very kindly answered the questions which I had prepared. And the Chair now

recognizes Mr. Studds for any questions or comments he might have.

Mr. STUDDS. Thank you, Mr. Chairman.

Mr. Chairman, I have a fairly extensive set of questions and concerns, so please cut me off and I will come back again in a second round if I may.

The gentleman from Alaska.

Mr. JONES. The gentleman may proceed.

Mr. STUDDS. Thank you.

Admiral, I trust the Coast Guard is redeployed now after the America's Cup. Are you all back to station?

Admiral GRACEY. Yes, sir. We went back in leaps and bounds.

Mr. STUDDS. I will not ask you to estimate the savings anticipated to be incurred by the Coast Guard 3 years hence due to the absence of the races at Newport. I know that will make a difference.

At one of our earlier hearings, as I think you know, representatives from the Marine Engineers Beneficial Association testified:

That this Congress can begin to crack down on deadly ships only after all the basic inspection responsibilities rest with an agency of civilian career professionals similar to the Bureau of Marine Inspection and Navigation that existed before World War II. A policy that does not begin phasing the Coast Guard entirely out of the inspection business does not attack the real problem of vessel safety and probably contributes to it instead.

Now, first of all don't worry, I don't put a lot of stock in that assessment. But it does raise two issues which I think are basic to marine safety which we have been talking about for several years but which I don't feel have been satisfactorily addressed. The chairman raised some earlier.

No. 1, Coast Guard inspectors are all too often too young and inexperienced to conduct fully professional inspections, and that they do not, as a consequence, command much respect from vessel captains and crew.

No. 2, this problem would be alleviated in part by the use of civilian specialists rather than military personnel due to the fact that Coast Guard personnel must be trained in a variety of jobs and are transferred throughout their career.

Those are widely held perceptions, as you know. Admiral Lusk said the Coast Guard had moved to a 4-year rotation policy, that further delegations of authority to the ABS would be forthcoming, that more emphasis was being placed on specialized training and the inspection system when finished would improve the efficiency of the inspection program.

I think those are instructive steps but they don't really address the question of whether the Coast Guard program could benefit from greater input by experienced civilian personnel. Provided the funding and positions were available, what would your reaction be to a proposal to hire, say, 25 to 50 civilians who have experience in the area of marine safety, whether that was obtained in the Coast Guard, merchant marine, ABS, or elsewhere, to serve in relatively senior positions as trainers, troubleshooters, and occasionally inspectors in various safety offices around the country?

Could not such a program supplement other steps you are taking to improve the service and versatility of your inspectors?

Admiral GRACEY. Well, a program of introducing some civilian, experienced civilians, I assume you are talking about old civilians, Mr. Studds, because you are very critical of the young officer. I assume you wouldn't want any young civilians?

Mr. STUDDS. I am not going to get into a discussion of age.

Admiral GRACEY. I don't mean to be smart-alecky, Mr. Studds, but there is a significant point. The young officers we have I think take a lot of lumps they don't deserve.

Mr. STUDDS. I understand that. Be perfectly clear, Admiral, that what I am talking about are some widely held perceptions, not necessarily held by me or the extraordinarily experienced members of this committee of all ages.

Admiral GRACEY. Yes, sir. The whole thing chokes me up. I was speaking——

Mr. STUDDS. I am going to have to skip the next few questions.

Admiral GRACEY. I was speaking to the perceptors, Mr. Studds, not you.

Mr. STUDDS. I see.

Admiral GRACEY. I think there is some merit in looking at the idea of some civilian stability in individual offices. I, you said 25 to 50 or something like that I have forgotten the numbers you used but I am not sure we would want to go that far. In a number of our programs we do use the concept of matching military and civilian. It is not uncommon. The Department of Defense uses it in a lot of places. We do, too.

What it does is give you a combination of breadth of experience from the military and depth of experience from the civilian; and they match together. So I think there is some merit to that.

I would want to be careful about going too far because we are training our leaders, and we do have the benefit of flexibility from military personnel in the sense that military, we can move them to where the needs are. If the industry is going to be stable and all the ports stay put for a while without major changes, I guess we can keep our force stable.

But if they are going to change, if the focus is going to shift around, then we can move the people to go where it is if they are military easier. The basic concept is fine. The only thing I would be concerned about is that we are talking about replacing some senior military people, the most experienced people. They are the ones who have come up through the system. They are the ones who are about ready, who are in leadership positions and are ready to go on to even higher leadership positions. They are the ones that will be working in a number of arenas. So I would be worried about the impact of replacing them.

Mr. STUDDS. I think your response makes a good deal of sense. I can understand your emotion as a perceptee, I guess is the way you would put that.

Mr. BIAGGI. Would the gentleman yield? Thank you for yielding on that point.

I think we should recall that at one time we did have civilian inspectors and there were some difficulties that occurred during that period. The idea of rotation has its merits as you have clearly spelled out. This cross-pollination notion has a lot of merit, also.

But we have two phases. In the initial phase of that young officer, clearly he doesn't have the experience. That is what is concerning many of us as far as investigations are concerned. As far as civilians are concerned, it would occur to me he would not be in the same position of being rotated. If he is in a stationary position over a period of years, unusual relationships develop. There is a strong possibility of corruption. It has happened before. I don't think the behavior of man has changed. I don't think it has changed since Adam. Certainly not since the last time we had civilians.

The notions, as you suggested, my colleague Mr. Studds has advanced, of having civilian investigators with in-depth and lengthy experience irrespective of age I think has some merit. I offer these observations as a caveat so that we don't find ourselves immersed in the same situation we found before.

This industry doesn't need any kind of blighted situation attached to it.

Mr. STUDDS. I thank the gentleman. Let me go to one other set of questions, then I will yield back to the gentleman from Alaska, who is getting anxious.

Mr. SNYDER. He is always anxious.

Mr. STUDDS. I know that.

The concept generally is not that we return to a civilian inspection service. I resist the phrase cross-pollination, that we give some thought of an injection of this kind of personnel.

Admiral, since 1970, more than 120 people have been killed in accidents involving passenger ferries. Throughout our hearings in this sequence we have been talking about safety of merchant vessels which carry relatively small crews of skilled seamen which are required to have life boats suffice for each person onboard and soon will be required to have survival suits.

Passenger ferries may carry, as you know, 2,000 people inexperienced in trouble at sea and protected not by survival suits or life boats or life rafts but only by life preservers which as you know provide no protection from hypothermia. Is it fair to say that if a passenger vessel should sink quickly 10 or more miles from land in very cold water, the chances are good that a lot of people will lose their lives no matter what the Coast Guard does?

Are ferries required by the Coast Guard to be equipped with a public address system to advise passengers of a pending emergency or survival procedures?

Admiral GRACEY. All ocean-going passenger vessels carrying 500 or more people are required to have that or all vessels over 100—that have life boats more than 100 feet from the bridge are also required to have a public address system. Yes, sir.

Mr. STUDDS. I realize it might be economically impossible to require life boats or even rafts on some of these vessels, but has the Coast Guard been seeking to develop some other type of life-saving equipment which would have a large capacity, which would be compact to store and keep people out of the water?

Admiral GRACEY. We are looking at a whole number of things, Mr. Studds. The problem as you correctly pointed out is sufficient numbers of life rafts. Let's say you had a ferry that carried 2,000 people. You would need 80 25-man rafts. That would take some-

thing like 900 square feet of deck space just to stow them aboard. We are looking at some inflatable type equipment that would not take that much space. You wouldn't need a raft that had a canopy, for example, because presumably the people aren't going to be in the water very long. It is not like a ship out in the middle of the ocean. There are a variety of things we are looking at, but we haven't reached any conclusions yet.

Mr. STUDDS. How far along are you on that?

Admiral GRACEY. I would like Admiral Lusk to answer that.

Admiral LUSK. The project the admiral is referring to is one being developed jointly with the Washington State Ferry System, a private manufacturer that is doing some research along with Washington State. My people tell me they expect to have a pretty good package sometime by the middle of next year.

Mr. STUDDS. I thank you.

Mr. Chairman, I can tell the gentleman from Alaska, I hope he will be able to stay for the second, third, and fourth round. The questions get better.

Mr. JONES. The gentleman with less urgency has disappeared. He was going to another subcommittee to help get a bill out which I introduced, but the subcommittee already acted favorably.

Admiral GRACEY. Mr. Young, would you excuse me for a minute. I would like to add one little thing to Mr. Studds' answer. It is a little thing.

Last November, Mr. Studds, I directed Admiral Lusk to take a look at the business of adding some civilians to our commercial vessel safety offices. We are already adding civilians and it is a question of how many and where, how best to make it work. But the intent would be to remain primarily military with military leadership, balance off some of the problems of rotation, and so forth in other ways.

But at least a part of what you asked about is already underway. Excuse me, Mr. Young. Thank you very much, sir.

Mr. YOUNG. Thank you, Admiral.

Again, thank you, Mr. Chairman.

I was very antsy when I came in here because your bill was of great importance to your district, and your fine leadership. My troops did not object in the past immediately as we walked into the room.

Anyway, Admiral, I have some very short questions. I would like to address them to you. Last week I cosponsored H.R. 3970, along with the chairman and other members of this committee which would establish a Coast Guard Offshore Safety Advisory Committee. I know you have not had enough time to fully review the bill, but would you give me your general impression and have other advisory committees contributed to maritime safety?

Admiral GRACEY. I have not had a chance to review it at all, Mr. Young, but I am aware of it. Absent knowledge of the details, I can tell you the general concept is one I welcome.

Mr. YOUNG. When you do finish reviewing it, I would appreciate it if you would furnish the committee with your ideas and suggestions. We start these things, many times we overlook, add to, and cause some problems to the agency. You can give us your advice.

Admiral GRACEY. We will, sir. Admiral Lusk has already asked our people to do that. We have had good luck with our other advisory committees. The offshore area is one that we are not doing as much in as we would like to, or perhaps we should. And we would welcome counsel on that.

Mr. YOUNG. We have a slight problem that we will try to rectify. Somehow it got into Mr. Weever's committee and he is really into trees. So we are going to try to get it back onto this side of the aisle anyway.

[The information was not received at time of printing.]

Mr. YOUNG. Admiral, H.R. 3486 requires a vessel owner to notify the Coast Guard if a communication has not been received from the vessel in 48 hours. Does this provision create any additional duties or liabilities for the Coast Guard or would this be treated in the same manner as any other search and rescue case?

Admiral GRACEY. Once we got notification it would be treated as any other case. First it would be an uncertainty. Then we would go to the alert and ultimately to distress if we couldn't make any contact. I explained a little earlier that we would like to, we think the basis idea is good. I would like to see the onus put on the owner, first, to make contact. That would cut down the number of false uncertainty cases that we are dealing with. After that if he is unable to make contact, we would like to be notified.

Mr. YOUNG. That was the intent of the question because it appears to me the way it is written the onus is on the Coast Guard. Because once, if he notifies you he has not had a communication from the vessel and you have to scramble, go into a rescue situation, yet it is the fault of the vessel commander or captain, for not contacting the owner, it seems it would be a tremendous expense to the agency.

Admiral GRACEY. It would be a tremendous expense and almost an impossible situation, Mr. Young. We would not scramble at the outset. We would do exactly what we are asking the owner to do which is to make an effort to communicate. We would like the owner to use his normal processes and perhaps other ships he has at sea, whatever methods he might have to reach them. If that doesn't work, let us then expand into our broader network.

It would only be after we had gone through some extensive efforts in that regard that we would start into an actual scramble.

Mr. YOUNG. Section 4 of—

Mr. SNYDER. Would you yield briefly about the reporting requirement?

Mr. YOUNG. Yes.

Mr. SNYDER. On page 5 of the bill, line 21, the bill refers to section 212(a). There is a 212 small "a" in existing law. There is also a 212 capital "A." I guess counsel should answer. It looks to me like the appropriate reference would be to the capital "A." Perhaps it is a typo. If the reference is to the small "a" then I don't really know to whom the provision applies.

Could counsel take a look at that and tell me whether I am correct? It should be a capital "A," because if it refers to the small "a," it just doesn't make a lot of sense and I don't know to whom the provision applies. If it is meant to refer to capital "A," then it applies to vessels in the foreign commerce.

Mr. YOUNG. I appreciate the gentleman's bringing that to our attention. I am sure as many staff as we have sitting around here they can come up with an answer sooner or later.

Mr. SNYDER. Because it would make a whole lot of difference on the thrust of the provision.

Mr. YOUNG. Thank you.

Admiral, section 4 of H.R. 3486 gives the Coast Guard authority to suspend or revoke the license of a pilot for actions taken by the pilot under a State license. A change is proposed that would allow States to continue to discipline pilots and provide for automatic suspension of a Federal license as a result of a State board proceeding. I think this would preserve State and local authority and tighten Federal requirements at the same time.

What is your reaction to this type of proposal?

Admiral GRACEY. I am sorry, you said something earlier in your question that triggered a side thought and I missed the meat of it.

Mr. YOUNG. The question is, the bill gives the Coast Guard authority to suspend and revoke a Federal license as written. There has been a proposed change that would allow the States to continue to discipline the pilot and provide for automatic suspension or revocation of the Federal license depending on the result of the State pilot board proceeding.

Personally I think this would preserve the State and local authority and tighten Federal requirements at the same time. I just want to know your reactions to it. It has not been offered. It has been suggested for the bill. It does leave some of the authority within the State pilot boards.

Admiral GRACEY. We have not gone to great lengths to try to take anything away from the States, Mr. Young. Incidentally, we haven't seen nor heard about this proposal before. Some States are very effective and we work very well together. Others are not as good. Obviously in some areas, we would be concerned about it. I think we should say, I know there is a lot of talk about pilots, I would like to just make the point that in general, the pilot safety record is very good in this country. The proposal in 3486, we didn't seek it, but we certainly would not be unhappy with it. It would give us additional means to deal with the occasional exception of the pilot who doesn't act responsibly. And it is an occasional exception. Pilots are highly professional. It would give us an opportunity to go through our S. 4440 procedures which we think in some respects would be fairer to the individual involved because it is an administrative law judge and he goes through all the legal processes. But I think a balance is good.

Mr. YOUNG. You would have no objections in those States operating up to par for them to continue to do it under the pilot review board?

Admiral GRACEY. Our goal is safety, Mr. Young. However, we can get it, that is all we care about. Those areas where we are working well, we are happy to keep going. Those where we aren't, perhaps we can figure out a way to do it.

Mr. YOUNG. I appreciate your comments about the pilots because overall I think we have had a fine group of people involved in the industry and have done well, if you look at the record, some of the problems we have had—thank you, admiral.



Mr. Chairman, I would like to request that a letter be inserted in the record on behalf of Congressman Jack Fields of Texas. The letter is from West Gulf Maritime Association of Houston, which raises serious concerns about section 4 dealing with the pilots' licenses which I just discussed with the admiral.

Mr. JONES. Without objection so ordered.

[The letter from West Gulf Maritime Association follows:]

WEST GULF MARITIME ASSOCIATION,  
Houston, Tex., September 6, 1983.]

Re H.R. 3486 "Maritime Safety Act of 1983".

HON. WALTER B. JONES,  
Chairman, Subcommittee on Coast Guard and Navigation,  
Washington, D.C.

DEAR MR. JONES: The West Gulf Maritime Association is a trade association of 78 ship owners, ship agents and stevedores domiciled in all the Texas ports and the port of Lake Charles, Louisiana actively engaged in the maritime industry. Our members represent more than 500 domestic and foreign flag ship owners with thousands of oceangoing vessels calling at West Gulf ports every year.

We wish to take this opportunity to express our concern with a particular part of HR 3486, specifically Section 4 (Licensed personnel accidents), and how this section can affect state licensed pilots.

The proper functioning of the state pilotage system is of utmost concern to us due to its importance in the orderly operation of vessels in and out of our ports.

We believe the proposed change to 46 USC 239 (d) in Section 4 by deleting the phrase "acting under the authority of his license", is an attempt either coincidentally or deliberately to bring state licensed pilots under close and direct U.S. Coast Guard control. There have been attempts in the past by the Coast Guard to discipline pilots holding both federal and state licenses for actions by these pilots while they were piloting under the aegis of their state license. These attempts have been rejected by the courts who recognized the long standing tradition of individual states in licensing and regulating pilots.

We may add there are numerous other avenues open if the Coast Guard believes good seamanship was not observed or specific navigation rules have been violated.

We hasten to add that we recognize the need for a regulatory body to which the pilots must be responsible.

We believe this body should be the local pilot board in each port or the state pilot board as the case may be. The local or state pilot boards can commission a committee for the purpose of investigating and recommending action to be taken by the pilot board. Such a committee should be made up of individuals who possess the maritime expertise and local knowledge to make fair and proper recommendations in cases brought before them. The facts developed by the U.S. Coast Guard during their investigation of an accident should be made available, and the U.S. Coast Guard should participate as observers in such Pilot Board Committee meetings and deliberations.

Every port or pilot board should be encouraged to form a Pilot Board Investigation Committee and the U.S. Coast Guard can undoubtedly be helpful in stimulating the establishment of such committees on the local level.

We may mention that a Pilot Board Investigation Committee has been functioning in Houston since 1976. Representatives from industry, the Pilot Board, the Port of Houston and the Houston Pilots, with the U.S. Coast Guard present as observers, meet to review all facts surrounding accidents on the Houston Ship Channel. They forward their recommendation to the Pilot Board for any disciplinary action against the state licensed pilot the committee believe warranted.

This set-up has worked very well, to the complete satisfaction of the industry, the Port Authority, the Pilots and the U.S. Coast Guard.

In general, we believe the U.S. Coast Guard should defer any action against a state pilot to the local or state pilot board. If, however, the U.S. Coast Guard is not satisfied the local pilot board is fulfilling its obligation in regulating and administering pilotage, or investigating accidents, they already have opportunities to take corrective action in a number of different ways.

We strongly feel it would be a mistake to amend 46 USC 239 (d) as proposed and thereby effectively remove the traditional state jurisdiction over their own licensees. We believe fair and equitable justice can best be administered by local authorities with local knowledge and expertise. Such local knowledge and expertise would be

difficult if not impossible to obtain by Coast Guard personnel within their normal tour of duty.

In addition, Section 4 of HR 3486 will not add anything to the safety of navigation. Qualifications of State pilots have already been established and rests with the local pilot boards. As professional experts, pilots must be expected to do their best at all times regardless of circumstances and regardless of which authority is looking over their shoulder at the time. The Pilot Board carries the responsibility to ascertain that proper guidelines for qualifications are established, and that the prospective pilot meet these qualifications.

We urge that Section 4 of H.R. 3486 be deleted while we fully support the rest of the bill, which we indeed believe will promote marine safety.

Very truly yours,

TED THORJUSSEN,  
*Executive Vice President,  
West Gulf Maritime Association.*

Mr. JONES. The Chair recognizes the gentleman from New York, Mr. Biaggi.

Mr. BIAGGI. I have no questions.

Mr. JONES. The Chair recognizes the gentleman from New Jersey, Mr. Forsythe.

Mr. FORSYTHE. Thank you, Mr. Chairman. I apologize for being late. I was detained in another committee.

Following on with Mr. Young, I am quite concerned about the pilot situation. Admiral, why do we need the dual system? It seems to me to be kind of an anachronism, and it has nothing to do with the type of work that the Federal license covers as opposed to the State license. It is merely tied to the type of service the boat is in, not the difficulty of the harbor or any of the other things we would normally assume. It apparently comes out of something that was assumed to be an omission in the State pilotage situation.

The State pilots who have contacted me are very concerned about added Federal involvement. I think you stated it very well. The incidents involved, whether it be State or Federal licenses, are relatively rare. If we do have any problems with State pilotage, we should be concerned about it. But should we really look at the whole system?

Admiral GRACEY. I can tell you from experience in three different districts, Mr. Forsythe, that the problem of the State license versus Federal license and when is a pilot operating under one and when under the other, et cetera, is a nightmare for the Coast Guard, and I am sure for the pilots and State Pilot Commissions and everybody else.

I do think we need to review this. One thing we have always talked about in terms of merchant marine/commercial marine traffic is one of, it is commerce of the United States. And there probably should be some uniform approach to doing business in the various ports for vessels coming and going.

It must be very difficult for them to have a different set of rules and standards and so forth every place they go. We have tried to be uniform in our other programs, pollution regulations and all kinds of other regulations. We don't have that in this. To that extent it might be worth taking a look at it. We were not unhappy with the idea of being able to approach the situation on the Federal license, from the Federal license angle, because it removed this uncertainty and the hassle wanting to know what license he was operating under and coming through some devious means.

There are other alternatives. We can go the simple penalty route under the Motor Boat Act. We are now going to ask the pilots when they come for renewal of their license, to give us a summary of their experience during the tenure of their previous license and a number of things like that so we can review them periodically. It is, to me, a bit of a tempest in a teapot. But my goodness, it is a tempest. It does give our people an awful lot of grief. So I don't envision, if the provision in 3486 were to go in, I don't envision, as I think some do, of a great descent of the Coast Guard upon the pilots. Because as I said earlier, we are only talking about the very rare exception of someone who does in fact not act professionally.

Mr. FORSYTHE. The state pilots are concerned about the proverbial nose under the tent.

Admiral GRACEY. I am sure that is perceived. Yes, sir.

Mr. FORSYTHE. I suppose the suggestion that Mr. Young related would go some ways in alleviating this particular problem. I have a series of questions here which I don't think I will try to ask now, but I will submit them and ask the Coast Guard to reply for the record.

It seems to me some of the same problems that have been brought up concerning the rotation of vessel inspection officers also would apply in your licensing of pilots. Well, I am concerned about how we train and regulate pilots.

Admiral GRACEY. And so are we, Mr. Forsythe.

One of the things that is apparent is the lack of uniformity in approach or even seeming uniformity of concern among the various States. Some of the systems are excellent and very properly focused. The apprentice program, the whole bit is super. But there are some States where the system goes back to the early days of the country, and the world isn't the same as it was in those days. My general impression was that I remember a number of ports that I thought ought to be having pilots taking ships in—they weren't required by these States. And some systems just had never envisioned those places being ports. So they never envisioned enough to build it up.

The political slant—financial structure was such that they couldn't do it. That left us kind of wondering. That is a different aspect of the problem than you are talking about, but it illustrates things.

Mr. FORSYTHE. It is very much a part of it. Somebody should identify what would be the level of service that can be rendered, and the quality of service that can be rendered.

Admiral GRACEY. Yes.

Mr. FORSYTHE. By the State unit.

I wonder if your organization does keep any kind of a record on this that we could gather in terms of the quality of service and sufficiency of service, because if there aren't enough pilots to handle the trade, you have got another problem. I know some of these are very restrictive memberships in these pilot organizations.

Admiral GRACEY. Yes.

Mr. FORSYTHE. So all of those things do go into the mix, I think.

Admiral GRACEY. I should tell you, I would like to comment at this point, that I think we don't have much data on that. Some of

it is pretty hard to get, because, again, we have some States that are willing to give it to us and some that aren't.

Mr. FORSYTHE. You probably get the records from the good ones.

Admiral GRACEY. You are probably right.

We meet regularly with the American Pilot Association when they are having a conference. In fact, I was with them just a couple days ago here in Washington and talked with their Board of Trustees at some considerable length. Admiral Lusk was with me. We shared views through the morning.

I can assure you that the pilots in general, and American Pilots Association specifically, are very concerned. They are a very conscientious group, and they are concerned about safety; every bit as concerned about it as we are.

Mr. FORSYTHE. If my time is up, I would like to submit some more questions for the record. Thank you very much, Admiral.

Mr. JONES. Without objection, so ordered.

[The question of Mr. Forsythe were incorporated in a letter to the Coast Guard on October 7, 1983.]

Mr. JONES. The gentleman from Delaware, Mr. Carper.

Mr. CARPER. Thank you, Mr. Chairman.

I don't believe the language in 3486 addresses a requirement to mandate the carrying of antiexposure suits aboard cargo vessels. I understand that that matter is being addressed through regulations. Presumably, those are regulations you or your staff are working on.

Could you give us an update on those regulations, particularly as they concern the wearing of antiexposure suits?

Admiral GRACEY. I can tell you we are working on it, Mr. Carper, and we are moving ahead.

I would like to ask, if I might, Admiral Lusk to answer that, because I am sure he is more up on the details than I.

Admiral LUSK. Yes. We did promulgate a notice of proposed rule-making regarding exposure suits, requiring them aboard certain vessels in certain service in certain latitudes. We put that out on February 3 of this year, sir.

The comment period closed on May 4. We received 43 comments. Some of the comments were addressed to the latitudes that we were requiring those exposure suits for; quite correctly pointing out that the marine electric personnel perished in an area that would not have required exposure suits. Other comments made suggestions regarding the provisions that we had for not requiring exposure suits aboard certain vessels that were equipped with covered lifeboats, for instance.

But, in any event, we have analyzed the comments and we expect some time within the very, very near future to put out a final rule which will take into account those comments, sir. So I do believe that we will see a rule that is effective for exposure suits in the very near future.

Mr. CARPER. Good.

Second question: It has been suggested that a provision be included in the bill to allow certification inspections for certain vessels operating in foreign locations. I believe a comparable provision exists in the Safety of Life at Sea Treaty; I believe it is in chapter 1. But I understand that was not implemented by the Coast Guard.

Does the Coast Guard have the resources to maintain a worldwide inspection program in accordance with current inspection regulations; or would a limited extension provision provide needed flexibility?

Admiral GRACEY. A limited extension provision isn't going to solve the problem, Mr. Carper. The problem we have is twofold. The 60-day notice provision that is in the bill would solve—would help solve the problem. The problem is logistics. Our people are stationed in the United States and they go to where the inspection is, by and large.

You asked if we had enough resources to maintain a worldwide program. Not the way we would like it, no. We are doing it. We are concerned that the mushrooming construction programs in Asia may overwhelm us at one point, and we are going to have to shovel people around. We are happier to have military people doing it, because we can do that. But we have a program going on. We are inspecting the vessels wherever they may be. We are hanging in there. But it is going to be a squeeze. But we don't—I think the extension aspect is not something that is particularly necessary. We can cover it otherwise.

Mr. CARPER. Thank you. I surrender the balance of my time, sir.

Mr. JONES. The Chair recognizes the gentleman from Kentucky, and I believe it has been ascertained by staff that the small letter "a" should be a capital letter "A."

Mr. SNYDER. Yes, Mr. Chairman. Mr. Welch has indicated that is correct.

Mr. JONES. Is the gentleman satisfied?

Mr. SNYDER. That helps.

Mr. JONES. Thank you, sir. You may proceed.

Mr. SNYDER. Thank you.

Admiral, most of the testimony that the subcommittee has received so far on this bill has related to ocean going vessels. I ask you: Has the Coast Guard experienced a reporting problem with inland certificated vessels?

Admiral GRACEY. Meaning reporting when they—on the 48-hour basis?

Mr. SNYDER. Any reporting that would be covered by this bill relating to inland vessels. Are you having a problem currently? In other words, main concern is why we have included inland barges in this bill.

Admiral GRACEY. Well, I think that the place it would become particularly significant would be on the coastwise trade, and perhaps on the Great Lakes. But most Great Lakes companies I am familiar with, both bargers and lakers, have a reporting requirement that way exceeds anything we would lay on them; so that that is not a problem.

In the coastal trade, coastwise trade, a vessel is, you know, 30 miles offshore, and nobody knows where you are if you are in trouble. You could be in the middle of the Atlantic. It is just as bad.

Mr. SNYDER. Your inspection teams currently make frequent random boardings at all coastal and inland ports. Since the inland vessels do not leave our territorial waters, never leave the authority or jurisdiction of the Coast Guard, isn't the Coast Guard able to deny continued operation in the case of any inland vessel violation?

Admiral GRACEY. I am not sure I am tracking with you, Mr. Snyder.

Mr. SNYDER. Don't you make random boardings of all the inland certificated vessels for inspection purposes? Aren't you in a position currently to deny continued operation in the case of any violation by an inland certificated vessel?

Admiral GRACEY. Well, there are two classes. I think I am going to hand off to Admiral Lusk because we are getting into some technical detail that he knows better than I. But we have got to be sure we differentiate between uninspected vessels and inspected vessels. We get into some difficulties there.

Let me hand off to Admiral Lusk, if I may.

Admiral LUSK. We do have a statute that does allow us to take action if there is any kind of a threat to the environment or the country for any vessel, be it foreign or domestic, in any of our waters. And we have taken such actions against uninspected vessels. With the inspected vessels, we don't have that problem. We have a much more direct control over them, sir.

Mr. SNYDER. That is what I am talking about, the inspected vessels. As a matter of fact, the inland and coastwise barges never leave the territorial jurisdiction of the United States, do they?

Admiral GRACEY. Oh, yes. If you are assuming 3 miles is territorial jurisdiction, they go outside.

Mr. SNYDER. The jurisdiction of the U.S. Coast Guard.

Admiral GRACEY. No, sir.

Mr. SNYDER. They never leave that?

Admiral GRACEY. Nobody does if they are flying a U.S. flag, anyplace.

Mr. SNYDER. I understand that your Coast Guard marine safety system is supposed to be on line very shortly, maybe within a year.

Admiral GRACEY. Lord love us, sir, I hope so. We have been working on that thing forever, and I certainly hope it is.

You want to add specifics?

Admiral LUSK. Only that parts of it are on line now. The interim MSIS system that concerns foreign tankers arriving in the United States, for instance, is on line.

Mr. SNYDER. When it is completed, won't a reporting system such as envisioned by this bill be duplicative of the MSIS?

Admiral LUSK. The reporting system relative to inspected vessels will be in it. But there won't be any information in it relative to U.S. noncertificated vessels. We will have in it information about foreign vessels and the entire inspected vessels, but we won't have information about the uninspected vessels; for instance, the 30,000 fishing vessels. Inland barges, if they are carrying petroleum products or dangerous products, are required to be certificated and will be in it. But the thousands of them that are not under our inspection umbrella will not be in it.

Mr. SNYDER. Due to the operating requirements of inland barges, vessels scheduling changes occur frequently and continually. Under the provisions of this bill, expiration of certificate notices are sent to a central Coast Guard Office.

What would you do with the information?

Admiral LUSK. If you are thinking of, if I were to get it 60 days in advance and it wasn't to tell me where the barge was going to be in 60 days, it wouldn't be of any great use to me, sir.

Mr. SNYDER. Would it require the shifting of personnel from field inspection, where they are probably needed, to desk jobs for cross-checking records, computer printouts and such?

Admiral LUSK. We envision that our MSIS system will be programmed to give a reminder to the owners of the pending expiration of the certificate and that information will be available to us, too, sir. We would hope that they would make the vessel available in one of the ports where we had people located so that we wouldn't have to move people to another port.

Admiral GRACEY. You are envisioning, Mr. Snyder, a new burden laid on owners that says now you have got to tell us 60 days in advance, and we are going to tell you one of the things we are going to give as a violation is failure to notify 60 days in advance.

Mr. SNYDER. I don't know how they can notify you where a barge is going to be 60 days in advance, to be honest about it.

Admiral GRACEY. I hear you. We understand the problem. Furthermore, to be realistic, we are not going to have a group of people sitting monitoring to see who hasn't reported 60 days in advance. What we will do when we get to inspect, if someone has not notified, is process a notice of violation.

But the whole intent is to try to provide some leverage to increase the communication between the ship owner and us to help us to work out the logistics of being where he is going to be when he needs or it is convenient for him to have an inspection.

Mr. BIAGGI. Will the gentleman yield on that point?

Mr. SNYDER. Surely.

Mr. BIAGGI. I think the gentleman made a point, a 60 days logistic problem is very obvious.

Commandant, how would you feel about narrowing it to 30 days? It has been a subject of discussion among staff. That seems to be the consensus here. What would your reaction be to that?

Admiral GRACEY. We can live with that, Mr. Biaggi. We prefer 60. You see, one of the problems that occurs to me is that that which we need to be able to inspect the vessel in Korea is different than what we need to inspect one that is going to be in Covington, or wherever. We need probably to put in some kind of language which—

Mr. SNYDER. Differentiates?

Admiral GRACEY [continuing]. Deals with that difference.

Mr. SNYDER. Yes.

The present law, as I understand it, is rather vague on permitting any continuance of vessel operation after a certificate of inspection expires. However, there may be valid reasons, I believe—I hope you would concur—why it is necessary to operate a vessel a week or two after a certificate expiration. You get scheduling delays; you have the need to complete a voyage; you have weather delays, channel stoppage, and other unforeseen circumstances.

If the Coast Guard was notified prior to expiration of a certificate by the vessel operator who might want to complete a voyage to a given port where he would have corepresentation readily available, and the Coast Guard had no reason to believe that safety

would be compromised, do you have any problem with granting permission for a vessel to proceed. Particularly, to a specified port where the vessel inspection for recertification would take place, thereby giving that vessel operator some degree of flexibility with the understanding that after questioning the operator as to his reasons for delay, and checking any outstanding requirements which might show up in your marine safety inspection data system, you would still have the option to demand that the vessel stay there and be boarded immediately and inspected immediately?

Admiral GRACEY. There is a procedure now, Mr. Snyder, that deals with the permit to proceed under such circumstances, and the Coast Guard issues that. It is a substitute. It replaces the certificate. And it is based on a variety of things we check. Then if we consider it safe for him, to proceed under the circumstances you are talking about to a point of repair.

Now, if you are talking about just continuing in operation for a couple weeks, I will let Admiral Lusk talk about the details of that.

In terms of getting to offload cargo so you can go and have your inspection done, there is a provision for a permit to proceed which covers that.

Admiral LUSK. Essentially, sir, with two exceptions. We have no authority to allow a vessel to operate once its certificate has expired. The certificates are required by statute. They are issued for a period of time pursuant to the statute. With those two exceptions, we can't allow operation.

Now, the two exceptions are both authorized in the statute. One concerns vessels whose certificates expire while they are overseas under certain conditions. The other is a provision that allows us, in the words of the statute, to permit the vessel to proceed to a port where repairs can be made at the convenience of the owner.

Mr. SNYDER. Going only to the question of an expired certificate—and you said the exception is only if it is overseas—suppose it is sitting in line trying to get through lock and dam 26 on the Mississippi River. He has to tie up. You won't let him go on down to the next inspection station with an expired certificate?

Admiral LUSK. What we typically do, sir, is make use of the other provision we have, the one besides the one overseas, which concerns permits to proceed for repair.

Mr. SNYDER. He may not need repairs.

Admiral LUSK. What we will typically do is pick up the old certificate. We will board the vessel, look at it to see if there is any particular safety deficiency that is obvious to us that might necessitate some other type of action, and we will start a certificate of inspection, if you will, and give a permit to the owner to proceed to the port that he has selected, some reasonable port not too far away, where there are provisions where he can have the vessel properly made ready for inspection.

There usually is some sort of shoreside assistance that he needs. This allows him to move from where he might be stuck in the lock or where he might have been damaged or where, for some other reason, he doesn't have a marine inspection office and full facilities. But we do accommodate his needs through the permit to proceed process, sir.



Mr. SNYDER. Admiral Gracey, in response to the chairman's question, you endorsed the penalty provisions, \$5,000 a day for each day of violation. I assume that you would not be agreeable to a per occurrence penalty, then?

Admiral GRACEY. We don't think it has the same impact, Mr. Snyder.

Mr. SNYDER. It obviously doesn't.

Admiral GRACEY. No.

Mr. SNYDER. In further response to his question about the penalty provisions both with regard to inspections and to negligence and so forth, you indicated that since it was a civil penalty, that the hearing officer had the authority to take into consideration mitigating circumstances.

Could you in any way define what you include within "mitigating circumstances"?

Admiral GRACEY. Yes. Our hearing officers, be it in commercial vessel safety violations or ports and waterway safety violations, pollution cases, whatever, always consider all the factors involved, the degree of culpability, and the significance of the violation—was it a minor infraction or was it a gross infraction? There are limitless things that they think about.

Mr. SNYDER. What you consider mainly is the severity of the violation. But do they have within that definition the authority to take into account the value of the vessel, cost of operating it, profits or rewards from operating it?

Admiral GRACEY. The hearing officer can take into account whatever he thinks is appropriate.

Mr. SNYDER. In other words, again I am thinking there is a considerable difference between the profits and the value of oceangoing vessels versus inland barges, and that difference ought to be considered if we are going to write a blanket-type maximum penalty to cover both.

Admiral GRACEY. I would, if I were a hearing officer, also consider where they were operating and what they were carrying and the extent of risk, not only to the vessel but to those around it, from a failure. It is hard to put them all down in writing anyplace, but they are all there.

Mr. JONES. Does that conclude the gentleman?

Mr. SNYDER. Yes. Thank you.

Mr. JONES. The Chair recognizes Mr. Biaggi, who passed on the first round.

Mr. BIAGGI. Thank you, Mr. Chairman.

We are talking about the vessel's certificate of inspection. Testimony has indicated that that is supposed to be the best enforcement tool.

Could you provide some examples of how that has been used in the past? Can you provide the names and locations of vessels that are presently laid up due to extensive Coast Guard requirements?

Admiral GRACEY. Did we say it was—I am not sure I follow you.

Mr. BIAGGI. We had some testimony that said the best enforcement tool is the lifting of a vessel's certificate of inspection when deficiencies are found.

Admiral GRACEY. I see. Could we do that for the record, sir?

Mr. BIAGGI. Sure.

[The information was not received in time for printing.]

Admiral GRACEY. Have we done this? Yes.

Mr. BIAGGI. If you don't have it available, the record will do.

Admiral GRACEY. Admiral Lusk has a big, long list here. If he can scan it quickly enough to give you something, I will let him do it, sir.

Mr. BIAGGI. Especially with relation to those currently laid up.

Admiral LUSK. I do have some data, sir. We can provide that to you for the record.

Mr. BIAGGI. Also a list of requirements, sample listing of requirements that could force an owner to lay up vessels.

At what point do you force an owner to lay up vessels?

Admiral LUSK. We typically don't force him to lay up the vessel, so that is a difficult question to answer. We will give him requirements. If he chooses to meet them, then we will give him a certificate. So it is his decision.

Mr. BIAGGI. Well, you are not going to give him a certificate if the requirements haven't been met in that period.

Admiral LUSK. I see, sir.

Mr. BIAGGI. The ship is going to be laid up; am I correct?

Admiral GRACEY. Yes.

Admiral LUSK. We can give you examples of that.

Admiral GRACEY. We are caught in a little bit of a whipsaw in that one, as I am sure you know, Mr. Biaggi. There are those who think we do it too often and those who think we don't do it often enough.

Mr. BIAGGI. That means you are doing the right job. Nobody is happy.

Admiral GRACEY. Thank you, sir.

Mr. BIAGGI. There seems to be a consensus that gravity davits should not be used. However, recently a passenger vessel operating in Long Island Sound was permitted to install sheath screw davits instead of gravity davits.

Can you explain the rationale? Is the Coast Guard considering prohibiting sheath screw davits on oceangoing vessels? Are you requiring installation of gravity davits on existing vessels?

Admiral GRACEY. I would like to ask Admiral Lusk to answer that.

I can tell you, in general, we prefer the gravity davit.

Mr. BIAGGI. Preferring is one thing; requiring is another.

Admiral GRACEY. Yes. I understand.

Admiral LUSK. We do prefer the gravity davit. With the implementation of the second set of amendments to solas the entire world's fleet—that is in 1986—it will not only have some sort of gravity-type davit but it will be a very sophisticated gravity-type davit which requires people to get into the boat before the vessel, small boat, has to be lowered to the embarkation deck.

Now, in the United States we have regulations that require gravity davits on the vast majority of vessels. There are exceptions, and the exceptions are vessels that are—for lifeboats—that are of less than 5,000 pounds. So if we have lifeboats that are less than 5,000 pounds, our regulations do not require a gravity davit, but rather allow a mechanical davit. That includes the sheath screw davit of the type to which you refer, sir.

Mr. BIAGGI. What about the vessels that are currently using the sheath screw davit?

Admiral LUSK. The regulations that implemented the requirement for gravity davits applied only to new vessels, and there was no retrofitting requirement when those regulations were put out. So we have roughly, by my estimate—and I might be a bit off—we have probably 100 of our major vessels that still have mechanical-type davits, which, were they to have been built recently, would have required gravity davits, sir.

Mr. BIAGGI. Can you give me an estimate when you think we can complete conversion?

Admiral LUSK. The way the U.S. fleet seems to last and last, sir, what used to be an old ship is now a new ship, it would appear. But there are probably 100 of them around now.

Admiral GRACEY. Right now the retrofit cost runs around \$35,000 to \$50,000 per set. So if you had two, you would be talking \$100,000 per vessel.

Admiral LUSK. And there are about 100 vessels. We used to think 20 years was the life of a ship. Now we have——

Mr. BIAGGI. In effect, we are looking at a set of regulations that will have little or no effect on 100 vessels?

Admiral LUSK. That is quite correct, sir.

Mr. BIAGGI. Thank you.

Thank you, Mr. Chairman.

Mr. JONES. The Chair announces we will go around with a second round of questions, Admiral, if you have the time to remain a few more minutes.

Admiral GRACEY. Certainly, sir.

Mr. JONES. The Chair recognizes Mr. Studds.

Mr. STUDDS. Thank you, Mr. Chairman.

Admiral, let me do a couple quick specific questions, if I may. I am concerned about the status of your investigation into the sinking of the tug *Morton S. Buchard, Jr.*, in the Cape Cod Canal, April 11 of this year. Target date for the completion of the report is October 1.

Will that be met?

Admiral GRACEY. We plan to meet that or very shortly thereafter, Mr. Studds. I can't remember whether the figure was October 1 or 31. But it is October of this year, which is the date I was told yesterday that would be ready to go, would be done.

Mr. STUDDS. At our hearing on July 27, we received testimony concerning the rescue swimmer program run by the Navy. The Navy estimates that Coast Guard personnel would be able to participate in that program at a cost of, I think, \$1,530 per student.

Has the Coast Guard made a decision about whether or not to begin participating in that program?

Admiral GRACEY. No, we haven't. We are looking at it, evaluating it, trying to see what questioning the value would be for us in our rescue work, and whether the costs would be justified.

Mr. STUDDS. When this subject came up, it was a surprise to me, frankly, that the Coast Guard did not have trained rescue swimmers.

There are none in the Coast Guard; is that right?

Admiral GRACEY. We have a lot of people who swim very well, but we do not have trained rescue swimmers per se.

Mr. STUDDS. I guess I should have known that.

What could be a more obvious appropriate skill for an agency whose principal mission is search and rescue in the water?

Admiral GRACEY. If I may just briefly tell you a story about a lifeboat station in Lake Michigan when I was District Commander there, they believed in swimming and they were all trained swimmers. One day they were on a rescue and suddenly discovered they had all gone in the water. There was nobody in the boat. We would like to keep people around the boat, and we are not too wild about everybody leaping into the water. So there is a great difficulty in making sure that you would have a trained swimmer on each and every rescue. Obviously, it has got a lot of benefit, and I wouldn't refute it.

What we are just trying to do is find out how to make it work and whether it is worth going into that specific thing or some other theme.

Mr. STUDDS. If that is the element of thinking, I can see we are not going to get very far in terms of helicopters and aircraft.

Admiral GRACEY. We sure don't want them leaping out of those.

Mr. STUDDS. No.

Do you have any feeling when the Coast Guard would decide it might be a good idea to be training some rescue swimmer?

Admiral GRACEY. No, sir.

Mr. STUDDS. Let me say I think that seems to me self-evidently in the interest of the Coast Guard. There are occasions, are there not, when you have had to call on Navy personnel so trained?

Admiral GRACEY. To my knowledge, we have only done that one time in the entire history of the Coast Guard, and we have a lot of people who go into the water regularly.

Mr. STUDDS. I understand. It does look like one of the things you would want to do.

On fishing vessel safety, Admiral Lusk said at an earlier hearing the casualty rate for fishing vessels was about five times as bad as oceangoing cargo vessels, and three times as bad as for U.S. oceangoing tank vessels. As you know, we have received recommendations concerning this issue at our hearing of August 2.

I would like your response to several recommendations. First, it was recommended all Coast Guard districts should publish guidebooks similar to the Fishermen's Safety Digest published by the 1st District.

Admiral GRACEY. It is a good idea. Many districts are doing it, sir. I am having a conference with my district commanders next week, and I am going to bring the subject up. It is a good idea.

Mr. STUDDS. Excellent.

Second, it was recommended you should establish a division of uninspected vessels to initiate a comprehensive fishing vessel program to include educational efforts, dedication of trained Coast Guard personnel to dockside examination of fishing vessels for compliance with Federal requirements, and improved data collection of fishing vessel casualties.

What do you think of that suggestion?

Admiral GRACEY. Let me preface what I think of it, sir, by telling you that I have for a long time been concerned about the safety of our uninspected vessels, with particular reference to the fishing vessels. Each of our district commanders in one way or another has done something to try and solve it. I, at one point, was suggesting to fishing owners we had assisted more than three times in a given period that they let us inspect the vessel. And I talked to an insurance company and said if they won't let us inspect the vessel, would you like to know about it? And they said yes, they really would.

I am concerned. I watch the thing about what goes on with fishing vessels. It has been happening for a long time. It really puts the squeeze on us, on our feelings, and our emotions. It is a tough kind of situation.

So I think there should be something we do for all uninspected vessels, certainly a fishing vessel. And I think the kinds of things that are suggested here are certainly part of the program. We think education is probably number one, because a number of the problems occurring are, in our view, occurring because the operator is making a mistake. That is not to talk down the professionalism of the fishermen in this country in any way, but the fishing councils and state of the economy and a whole range of other things, they put a real squeeze on the fishermen in this country. We put them in a position when they sometimes have to sail when they really shouldn't, and no, they shouldn't. But they only have a limited number of days to catch fish, and they go out. They go out in equipment that is not the best sometimes, and so forth. But I think we ought to do something.

The paradox is, of course, what you are suggesting is that we have a program to inspect uninspected vessels. I am throwing it back to you, sir, and suggesting I think it is a great idea that we do something, but I think we ought to come to grips with whether we want uninspected vessels or whether we want them inspected. If we are going to do it, I am more than ready to have us charge off into the sunset and do it.

We are going to need to do the kinds of things on the level you are talking about. You are going to hear those favorite words; we are going to have to have some resources to do it. We also need some statutory authority. We don't have that now. What we have done in the past has been all voluntary. We had to draw down, draw back on it when we drew down a couple of years ago.

Bottom line: I am in favor of your suggestion, but there are some caveats about authority and resources.

Mr. STUDDS. I appreciate exactly what you are saying.

One final recommendation that was given to the subcommittee, I assume in the event that we were to move in this direction, would constitute a logical first step; namely, that the Congress authorize the Coast Guard to require that the best available lifesaving and firefighting equipment be carried to maintain fishing vessels, including EPIRB's and emergency radio equipment.

Does that strike you as the kind of thing you would contemplate if you had this authority?

Admiral GRACEY. Obviously, as one committed to safety and who has committed his whole life to it, it would be unthinkable for me

to say I don't think everybody who goes to sea shouldn't have the very best of equipment. However, I think that such a requirement in the view of all the other limitations would make a mammoth enforcement problem and lead to people subverting.

The other side to it, probably much more significant, it would put a real load on an already depressed industry in terms of cost. The very best is also the most expensive, usually.

Mr. STUDDS. Let me say I think your response, in general, is a very perceptive and sensitive one. It is quite clear to those of us with substantial fishing constituencies that one talks at one's peril of the faintest, remotest possibility of Government responsibilities being expanded with respect to the Coast Guard or any other agency.

But, at the same time, as you indicated—you are very well aware—one does not like to see occasionally what men go to sea on and the conditions under which they go, and the pressures, particularly economic pressures that dictate notwithstanding their own frequently better judgment that they go.

Admiral GRACEY. That is right.

Mr. STUDDS. Fishermen always have gone, and I assume always will. But there are some serious questions that are raised, and I think, as I say, that you have capsulized the problem very well.

One final line of questioning, if I may. This is not about merchant vessel safety but about the safety of the Coast Guard's own vessels. Last January, the buoy tender *Planetree*, as you know, became disabled during bad weather in transit from Alaska to Hawaii. It sustained a 1-inch hole through a wall and 2-inch holes through a bulkhead, later described by the district commander as, quote, almost completely rusted from the inside out; one way it could possibly cause it to buckle, unquote.

After finally making port, 120 square feet of hull plating and bulkhead were replaced in the *Planetree* due to, quote, corrosive deterioration, unquote.

What action, other than making repairs to that vessel, has the Coast Guard taken in response to the *Planetree's* incident?

Admiral GRACEY. First, I would like to correct the record. It is not really worth much, but it was a one-tenth of a square inch hole, sir. We had done, earlier before the vessel sailed, some ultrasonic checking. The size of that hole in the hull was such that it probably would not be picked up under ultrasonic testing, I am told.

What we have done since then is to remind everybody that we need to be particularly careful to look at the ships. But it is an unnecessary reminder. The people who sail in those ships are well aware of their condition, and so are the district commanders. That is why we checked it out.

I can remember when I was Commander of the Pacific area, whenever one of those ships went across the Pacific, or any ship, particularly one of those, we always checked it out very carefully before it left to make sure that we thought, in our judgment, that they could make it safely. The 180's are good sea vessels. They have sailed all over the world, the Arctic and all over the place, and they are good vessels. So that is not a problem.

We have a technical inspection program going. That includes visual inspections, ultrasonics, and we have also—well, we have always had a program of putting those ships in dry dock every 2 years. That is continuing.

Mr. STUDDS. Let me ask you—I think the thrust of the question is self-evident: Does the Coast Guard still consider it safe to send a cutter of the *Planetree*'s age and condition across the Pacific in January?

Admiral GRACEY. Yes. It is not age that counts; it is condition.

Mr. STUDDS. Should we consider it unusual or surprising that a Coast Guard cutter should be rusted out to the extent as was the case with the *Planetree*?

Admiral GRACEY. Yes.

Mr. STUDDS. We should?

Go ahead.

Admiral GRACEY. The particular place where there was rust on this vessel, under the reefers, is a notoriously bad problem on the 180's; always has been. Everybody checks it. When they checked it before, some time before that one sailed, they were not able to discern problems. The bulkhead situation up forward, with the deteriorated bulkhead, is one that existed on those older—those ships which have not gone through the renovation program.

Back in the middle to late seventies, we had a program and divided the fleet in half, essentially. We did major renovations on half, and what we called austere renovations on the others. *Planetree* was subject to the austere renovation in 1974.

Those vessels are now the ones that were going through our service life extension program, or the SLEP—I know you like those things—and she is scheduled to go into that in 1988.

Mr. STUDDS. 1988?

Admiral GRACEY. Yes.

Mr. STUDDS. Then is the condition in which she was discovered to be typical for the as yet un-SLEP'd vessels of that vintage and that nature?

Admiral GRACEY. I hope not, sir. We have a program to find it and repair it.

Mr. STUDDS. Is 1988 the latest date one of these vessels will finally be SLEP'd?

Admiral GRACEY. I don't know, sir.

Mr. STUDDS. It does seem that a somewhat greater sense of urgency on our part—I suspect the slowness of the process is due to the lack of resources; is that correct? If you had more money from us, you could do that quicker; is that the case?

Admiral GRACEY. Within certain bounds.

Mr. STUDDS. I tremble a little bit. I don't want to wake up one morning and see that we have lost one of these things—

Admiral GRACEY. I would want to make one point, if I may. I would hate to have some of your Coast Guard, the Coast Guard people in your district, or anywhere, read the record of this hearing and have anybody have the impression that we in command in the Coast Guard are being cavalier about the safety of our ships. Quite the contrary. We are doing the very best we can to make sure they are.

I told my troops regularly that one of the things we are doing for the quality of their life is to give them decent equipment on which to sail and with a good assurance that they are going to get the job done and come back. The ships, the condition you are talking about I think has been overdramatized. It was not good. We weren't happy about it. But the real problem that occurred out there was a leaking oil seal in that the ship was in danger of not being able to proceed. We took care of that. We had other ships scrambling.

They are old and they need work, but we are doing it constantly. And spending money that even within a couple of years of doing a major renovation program we have spent as much as a third of a million dollars on a ship to make sure it was safe for the next 2 years. I have just spent over a million dollars on another ship. In fact, \$2 million on another ship where there were indications that she might get out there and be in trouble and not be able to get back, and she was due for an overhaul in another year, and I said the heck with it. Spend it now. We need the ship and we are going to do it.

So we are not being cavalier about it at all. Quite the contrary.

Mr. STUDDS. Finally, do Coast Guard cutters operating in frigid waters carry survival suits?

Admiral GRACEY. Some yes and some no. Those operating in Alaskan waters and the Great Lakes do. All helicopters and small boat crews have them. Some ships of the other area, in other—from districts, the cold water districts, some do and some don't.

We are looking at a program to determine whether we should extend it entirely to all ships. A problem we are trying to deal with is space and stowage problems.

Mr. STUDDS. It is not a cost problem?

Admiral GRACEY. Cost is always a problem. We always manage to get over that somehow.

Mr. STUDDS. Let me just observe—I don't want to belabor the point further—but the Coast Guard as you know has been accused from time to time of being unable to meet the standards it must impose by statute on other categories of vessels. This may be another instance of that. I suspect that some of the observations Admiral Lusk made earlier about older vessels getting older or don't seem so old any more certainly applies to the Coast Guard at least as much as to anybody else.

We have these vessels that go back further than I care to think about in terms of their date of birth. I don't know what the program is that comes at a later stage of life after your midlife update, but we may find some genuine senior citizens out there doing the most extraordinary things. I think we need to look at the Coast Guard once in a while. We concentrate on fishing vessel safety or ocean-going tankers or barges, but the Coast Guard is out there in vessels, too. Some are very damned old and many probably would not meet all or many of the requirements which we by statute impose upon vessels which are probably better, newer, and carrying fewer people in many cases.

We need to worry about that I think.

Admiral GRACEY. Well, I do worry about it. I think one thing we have to remember is that Coast Guard vessels were built originally to, designed to go in harm's way and to survive. And so they have



inherently more survivability than a vessel not so designed. Even if they are old, that still pertains.

We have a continual maintenance program. And in recent years we have been able to put a lot more money into our maintenance, thanks to you and other Members of Congress and the administration who have seen to it that we have gotten some money to do that. We have put a lot of emphasis on it. I am still continuing to emphasize it. So that we are doing a reasonable job of keeping them in good shape.

They are old. I suspect that they would not, some of them, come up to merchant vessel standards.

Mr. STUDDS. You have now alerted me to a brandnew problem. That is, the possibility of a Coast Guard cutter whose entire crew is overboard. I plan to worry about that. I hadn't thought of that before.

Admiral GRACEY. You don't worry about it near as much as I do.

Mr. STUDDS. Thank you, Mr. Chairman.

Mr. JONES. Does anyone on the minority side care to engage in a second round of questions?

Mr. SNYDER. I don't have any more questions.

Mr. JONES. Anyone on the majority side?

Mr. CARPER. With regards to the question Mr. Studds was asking on the rescue swimmer program, I presume the Coast Guard has entry level swimming requirements that are expected of officers and enlisted personnel; is that correct?

Admiral GRACEY. Yes, sir, we do.

Mr. CARPER. I would further presume you have annual or biannual proficiency requirements in swimming. Is that also correct?

Admiral GRACEY. I don't believe it is.

Mr. CARPER. So if a person can swim they can get in and don't have to continue to demonstrate that capability.

Admiral GRACEY. I have always been told that in our business if you have to swim you are a failure. That is a joke. [Laughter.]

We do require entry level swimming capability. Those who can't, we put them through training and teach them how. It is designed for their own survival, not the kind of thing Mr. Studds is talking about. The Navy rescue swimmer program is designed for aircraft that ditch or don't make it off an aircraft carrier, that sort of thing.

It is—they are parajumpers, aimed at that sort of thing. I can't argue with the logic it would be good to have someone on every boat who was a trained rescue swimmer. We have opted to have somebody who can somehow get them out of the water and then get them back breathing again. We have that training. If we can teach those guys how to swim I guess we will be in good shape. It is a logistics problem and a personnel assignment problem that I am not sure we know how to handle. The basic idea is very good.

Mr. CARPER. In my own role as a naval flight officer in the Reserves I had to demonstrate on a triennial basis my swimming proficiency and had a refresher course, in rescue swimming.

Admiral GRACEY. I think our aviators do, too. I am just not checked out on the details of that program. But I think our aviators have to do that.

Mr. CARPER. It is not the kind of thing that costs \$1,330 or even \$15.30, but I commend that to your attention.

Admiral GRACEY. Thank you.

Mr. JONES. Thank you. Admiral Gracey, I want to thank you and Admiral Lusk for your appearance here this morning. You have been very candid and straightforward, and we appreciate your testimony.

And if there are no further questions, we will call the next witness.

Admiral GRACEY. Thank you for your time, Mr. Chairman. We appreciate as always the committee's interest in the welfare of the Coast Guard and safety of mariners. We are with you.

Mr. JONES. Thank you, sir.

Our next witness is Mr. Robert McIntyre of the Federal Communications Commission.

**STATEMENT OF ROBERT McINTYRE, STAFF ENGINEER, FEDERAL COMMUNICATIONS COMMISSION, ACCOMPANIED BY ROY KOLLY, ASSISTANT CHIEF OF ENFORCEMENT DIVISION, FEDERAL COMMUNICATIONS COMMISSION**

Mr. McINTYRE. Good morning, Mr. Chairman.

Mr. JONES. Mr. McIntyre, the Chair is happy to recognize you. Perhaps if you could condense your testimony, sort of a Reader's Digest version, and then permit the committee to ask questions, so that we might move along a little better.

Mr. McINTYRE. Yes, sir, Mr. Chairman.

Mr. JONES. You may have all the time you need, however. You may proceed.

Mr. McINTYRE. Thank you. I would like to thank you, Mr. Chairman, for the opportunity to present the views of the Federal Communications Commission as your subcommittee considers whether to subsidize satellite ship-earth stations as an improvement in maritime safety.

We have a formal statement for the record. I would like to confine my comments to the the communications system required to support the U.S.-flag merchant vessel locating file system, the 1,000-ton limit and the Commission's recent proceeding on the 200-mile mandatory communications range for ships.

As you know, IMO is developing a new high seas distress and safety system. It relies primarily on ship-to-shore communications, unlike the present system which relies on ship-to-ship communications. The present system uses 500 kilohertz with manual radiotelegraph and 2,182 kilohertz with voice radiotelephone. The future global system will use satellite communications and will use automatic digital selective calling on HF frequencies. Both of these systems will be fully automatic. Each will have a backup system which includes an emergency satellite system similar to presently used emergency position indicating radio beacons [EPIRB's]. This system will operate with polar orbiting and geostationary satellites.

The point I would like to make is that the improved system will rely both on satellite communications and on present HF terrestrial communications. Both systems are adequate for long-range com-

munications between ship and shore, such as you are proposing in this bill.

Concerning the subsidy of vessels, I wish to bring to the subcommittee's attention the fact that the SOLAS Convention pertains to vessels that are 300 tons and greater. IMO, the International Maritime Organization, set out equipment carriage requirements for vessels above 1,600-gross-rated tons and IMO is currently addressing requirements for vessels between 300 and 1,600 gross tons. I would point to the fact that your bill addresses a 1,000-gross-ton limit.

I know that your subcommittee has been told in previous testimony that the Commission's radio inspections are inadequate and a 32-vessel test group has been cited as evidence of this. I would like very much to clear up this misconception. The Communications Act requires a ship to transmit for 200 miles a clearly perceptible signal on 500 kilohertz. This came about as a result of the power hearing in 1939, when a figure of 30 millivolts per meter at 1 mile was determined to be adequate to assure, on the average, that this 200-mile limit would be accepted.

The Commission measured 80 vessels at that time and determined that 200 watts was adequate to assure this field strength and communication range was met. The advent of vertical antennas introduced an unknown into the system and over the years the field strength has, in some cases, been reduced because of these antennas and other factors. These vertical antennas were not as efficient as the long wire antenna which had been previously used. This fact was brought to the Commission's attention.

We confirmed recently in testing 32 vessels that only 5 of these vessels met the field strength requirement. This does not necessarily mean they didn't transmit for 200 miles. It means they didn't meet the microvolt-per-meter parameter that had been established. We have instituted proceedings which will assure that the 200-mile limit is met in the future and a report and order recently released in docket 83-11 requires the vessel to show that it can operationally communicate over a 200-mile range or have a professional engineer measure the field strength required to assure that the 30-millivolt-per-meter signal will be met.

And, Mr. Chairman, I would like to say thank you again for the opportunity to provide you with the Commission's views on these important safety issues. If you have any further questions on these matters, I would be pleased to answer them.

I have with me today Mr. Kolly, of the Commission's Field Operations Bureau, who is prepared to answer any questions about the detailed ship inspections.

[The statement of Mr. McIntyre follows:]

STATEMENT OF ROBERT C. MCINTYRE, ELECTRONICS ENGINEER, PRIVATE RADIO  
BUREAU, FEDERAL COMMUNICATIONS COMMISSION

I would like to thank you, Mr. Chairman, for this opportunity to present the views of the Federal Communications Commission as your Subcommittee considers whether to subsidize satellite ship earth stations as an improvement in maritime safety. /

Satellite communications is a proven technology for the fixed radio service. Application of this technology to the mobile services, however, is relatively new. Satellite radio stations are only recently becoming common on vessels participating in the maritime mobile radio service. Although not mandatory, there are now over 350 U.S. registered ships equipped with terminals to access the INMARSAT system. The Commission is aware of reliability complaints which have been reported, such as those described to you in previous testimony. However, there are scattered, unspecific reports and no study has been made as to the widespread experience of the industry. Accordingly, our Field Operations Bureau is currently conducting a systematic, 6-month survey of satellite performance. Until the end of February, 1984, the field inspections of all ships which have satellite installations will include the gathering of performance data. A copy of the survey form is attached for the record.

With regard to the desirability of government funding for satellite systems on ships over 1,000 gross tons, the International Maritime Organization (IMO), through its Subcommittee on Radio Communications, is currently developing the equipment carriage and performance requirements for the Future Global Maritime Distress and Safety System (FGMDSS). As now envisioned, primary distress alerting for this system will be either by satellite or digital selective calling emergency systems. However, all vessels operating in high seas areas

will be required to carry an emergency position indicating radio beacon (EPIRB), operating with a polar-orbiting or geostationary satellite, for primary alerting purposes in the event of a sudden disaster or a failure of the primary distress alerting system. Moreover, follow-on communications between the shore-based rescue coordination center, the ship in distress, and other vessels which may be called to assist will be by either satellite communication or terrestrial communications or both. The system holds great promise for success, as evidenced by the incidents described in the attached reprint from NMEA News. However, the IMO planning has by no means reached the stage where a commitment to purchase certain types of radio equipment should be made for compliance under the FGMDSS. This may be expected sometime in the next few years. Nevertheless we do not know whether government funding of satellite installations will provide a boarder base of experience for future decisions than would exist without it.

There are a number of basic, operational concepts still unresolved or untested, including selection of characteristics for satellite EPIRB's, how to handle the costs of distress communications by satellite, and reliability of an operational system of mixed satellite and terrestrial communications under distress conditions, to name a few. We believe that IMO should complete its planning for the entire concept, including the plans for a transition from the present system, and that all options should be thoroughly tested during the early phases.

The United States supports slightly different equipment carriage requirements for vessels in the 300-1600 gross tons range than many other countries, who support a uniform set of carriage requirements for all vessels above 300 gross tons. The proposal in H.R. 3486 is to subsidize satellite stations on ships over 1,000 gross tons. This new displacement reference (1,000 gross tons) may serve to confine the expenditures under this program, but it may also create new conflicts in the international discussions of carriage requirements.

I know that your subcommittee has been told in previous testimony that the Commission's radio inspections are inadequate and a 32-vessel test group has been cited as evidence of this. I would like very much to clear up this misconception.

The 32-vessel test group has reference to a special, non-routine survey the Commission undertook to determine whether there is, indeed, a problem in the medium frequency radio system. Other witnesses before your subcommittee may have left the impression that the Commission has been derelict in its inspection responsibilities. This has not been the case.

If I may explain: in 1937 Congress added to the Communications Act the requirement that compulsory-fitted (with radiotelegraph) vessels of 1600 gross tons and over must be able to transmit a "clearly perceptible signal" 200 nautical miles on the distress frequency, 500 kHz, with their main transmitters (100 miles with their reserve installations).

After hearing engineering testimony for a week, the Commission concluded that the distance requirement would be met if the radio could produce a field strength of 30 millivolts per meter (mV/m) at one nautical mile with its main installation (10mV/m) with its reserve). After measurement of the efficiencies of antennas aboard some 80 vessels, the Commission further determined that a transmitter output power of 200 watts and 25 watts would satisfy the 30mV/m and 10mV/m requirements for the main and reserve installations, respectively. These transmitter power requirements were then incorporated into the FCC rules. Vessels since that time have been inspected by the FCC and a verification made that they carry radiotelegraph installations which produce this power, before the facility is certified for operation.

Vertical antennas began to appear on ships in the late 1950's, replacing the long-wire antennas with which ships had been equipped. So in 1961, the Commission conducted a study of whether these new antennas were capable of producing the necessary field strength.

Sampling was performed at 5 different ports and all of the vessels equipped with vertical antennas passed the tests. It was, therefore, not unreasonable to expect that a vessel with a radio of appropriate power would be able to transmit a distress signal the required distance, regardless of the type of antenna with which it was fitted.

When, in the late 1960's, it came to the Commission's attention that vessels - especially those fitted with vertical antennas - may not be producing the required signal, the Commission initiated a proceeding (Docket 18576) to correct this situation by proposing to increase the transmitter power.

Because of technical objections this proposal was not adopted. In the late 1970's the Commission initiated a second proceeding (General Docket 78-185) to correct this situation by proposing a different antenna. However, it became evident that the proceeding was premature and that the Commission needed to survey the ship station installations to determine the extent of the problem. That is when the 32-vessel study was undertaken.

I emphasize that the study represented extra effort by the Commission; it was not part of the routine inspection process. The routine inspection is keyed to determining the output power of the transmitters. The study examined field strength, not power. When the results showed that, indeed, vessels were not producing the requisite field strength, the proceeding was reinstated (PR Docket 83-11). The study cannot, however, be taken as evidence that the ships were unable to communicate the required 200 miles.

I am pleased to report that the Commission adopted a Report and Order in this proceeding on September 7, 1983. There the Commission stated, "(o)ur obligation is to implement the Communications Act ....." Accordingly, the Commission switched from the power standard to a field strength standard, which had been the basis for the power standard. The Commission considered that this change would present a more accurate indication that communications of 200 miles would be achieved. I have attached a copy of the Report and Order (FCC 83-384) for the record.



You can see from the above that there has been no dereliction in the Commission's inspection program. Therefore, inspections themselves do not need improvement. The signal standard did need improvement and this has been accomplished. In addition, the Commission staff participates in disaster evaluations. Reviewing these results, the staff is unaware of any pattern of failure of the radio system.

Thank you again for the opportunity to provide you with the Commission's views on these important safety issues. If you have any further questions on these matters I would be pleased to respond to them. With me today is Mr. Roy Kolly of the Commission's Field Operations Bureau who is prepared to answer any questions you may have about ship inspections.

FO-1035

August 1983

SHIP EARTH STATION (SAT) SURVEY

## Persons Answering Survey Questions

Radio Operator ☐ Master ☐ Other ☐ Specify \_\_\_\_\_

## I. Message Traffic:

Distress ☐ Yes ☐ No

What was the number of average daily business and operational traffic? \_\_\_\_\_

Comments \_\_\_\_\_  
\_\_\_\_\_

## II. How was the performance under all weather conditions?

Satisfactory ☐ Marginal ☐ Unsatisfactory ☐Comments \_\_\_\_\_  
\_\_\_\_\_

## III. Was the performance of antenna and servo mechanisms to lock on satellite under the following ship conditions acceptable?

Yes No  
☐ ☐  
pitchingYes No  
☐ ☐  
rollingYes No  
☐ ☐  
yawingYes No  
☐ ☐  
listing (if experienced)Comments \_\_\_\_\_  
\_\_\_\_\_

IV. Did the system Malfunction?

Yes ☐

No ☐

Comments \_\_\_\_\_

\_\_\_\_\_

V. Did the SAT Terminal Malfunction?

Yes ☐

No ☐

VI. Was maintenance performed on the terminal to correct the malfunctions?

Yes ☐

No ☐

Comments \_\_\_\_\_

\_\_\_\_\_

VII. Did the system operate using the ship's emergency power or reserve source of energy for SAT?

Yes ☐

No ☐

What was the operational level of the SAT using the ship's emergency or reserve source of energy?

Adequate ☐

Inadequate ☐

VIII. How would you Evaluate the performance of the SAT?

Safety Purposes: Satisfactory ☐ Marginal ☐ Unsatisfactory ☐

Communications: Satisfactory ☐ Marginal ☐ Unsatisfactory ☐

IX. Additional Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# Distress Alerting By Satellite - SARSAT / COSPAS Tests

By Lieutenant Mike Blume, U.S.C.G.

The Search and Rescue Satellite Aided Tracking (SARSAT) project has been discussed previously. This article identifies a joint parallel effort by the Soviet Union called COSPAS and discusses some specific search and rescue cases in which lives were saved due to a significant contribution from the SARSAT/COSPAS System.

## BACKGROUND

The objective of the SARSAT project is to achieve international cooperation in search and rescue missions by demonstrating that equipment carried on satellites in low-altitude, high-inclination orbits can greatly improve the detection and location of distress signals. The project consists of both space and ground segments. The space segment involves placing two "guest" instruments on board three "host" spacecraft of the Advance TIROS-N (ATN) series of the National Oceanic & Atmospheric Administration's operational environmental satellites. These satellites are meteorological satellites, not dedicated to search and rescue and the launch has always been dependent upon the operational requirements of the primary mission. The first satellite with SARSAT instrumentation is scheduled for launch in early 1983. The SARSAT repeater will relay distress messages from aeronautical Emergency Position Indicating Radio Beacons (EPIRBs), which currently operate at 121.5/243 MHz, directly to the SARSAT ground system. This provides regional coverage for today's ELTs and EPIRBs (figure 1). The second instrument, a data processor, will provide global as well as regional coverage for an advanced ELT/EPIRB operating at 406 MHz that will be tested as part of the demonstration.

As part of the SARSAT ground system, the United States will install, operate, and maintain the U.S. Mission Control Center and three ground stations. The ground stations receive the signals directly from the satellite and process "Doppler" information to determine the location of the ELT/EPIRB. The U.S. Air Force will operate the U.S. Mission Control Center and one ground station at Scott Air Force Base, Illinois. The U.S. Coast Guard will operate the other ground stations at Point Reyes, California, and Kodiak, Alaska (figure 2). The ground stations will provide regional coverage of the contiguous 48 states, Alaska, parts of Canada, Mexico, and U.S. coastal maritime areas. A Canadian ground station located in Ottawa, will extend this coverage to the eastern North American continent. A French ground station in Toulouse, will provide coverage of France and much of Europe.

## COSPAS/SARSAT

Parallel to the SARSAT project which includes participation from France, Canada, and the United States is the Soviet Union's program, COSPAS. In a 1980 agreement, the Ministry of Merchant Marine (MORFLOT) was designated to coordinate its satellite search and rescue program with the SARSAT program. COSPAS will fly receivers on Soviet satellites, coordinating its launches with SARSAT to provide complementary world coverage. This permits the ground stations of both projects to share each others satellites. COSPAS ground

stations are located in Moscow, Archangelsk, and Vladivostok (figure 3). COSPAS will maintain communications with SARSAT through the U.S. Mission Control Center. The first COSPAS satellite was launched in June 1982.

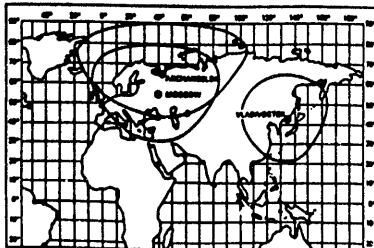
## INITIAL RESULTS

Since the launch of the first spacecraft in June, system engineers have been performing technical checkout. In the process some actual SAR data has been discovered and passed on to SAR planners. There have been four cases in which lives were saved.

The first incident involved the crash of an aircraft on September 9, 1982 in the heavily wooded mountainous terrain of the Canadian Rocky Mountains. The three persons aboard were injured and the ELT antenna was broken on impact. The survivors managed to activate the antenna by placing the remaining antenna stub into the connector. On 10 September the Canadian ground station processed data that had been relayed through the COSPAS satellite and gave a position despite the extreme satellite detection range and poor condition of the ELT. A search aircraft located the survivors only 14 NM northwest of the satellite provided position.

In the second incident the SARSAT/COSPAS system assisted in the location of a small plane which crashed in northern Quebec province, Canada, on 29 September. Satellite data confirmed a previous estimated position of the downed aircraft and aided in a swift rescue.

The third and fourth incidents were maritime rescues. The U.S. Coast Guard participated in the first maritime rescue using the system. Position information provided by the COSPAS satellite through the Scott, AFB ground station and the U.S. Mission Control Center convinced the Coast Guard Third District Rescue Coordination Center in New York to launch a search aircraft on an EPIRB signal. Three people



Ground coverage contours for SARSAT ground stations

Figure 1

Continued on page

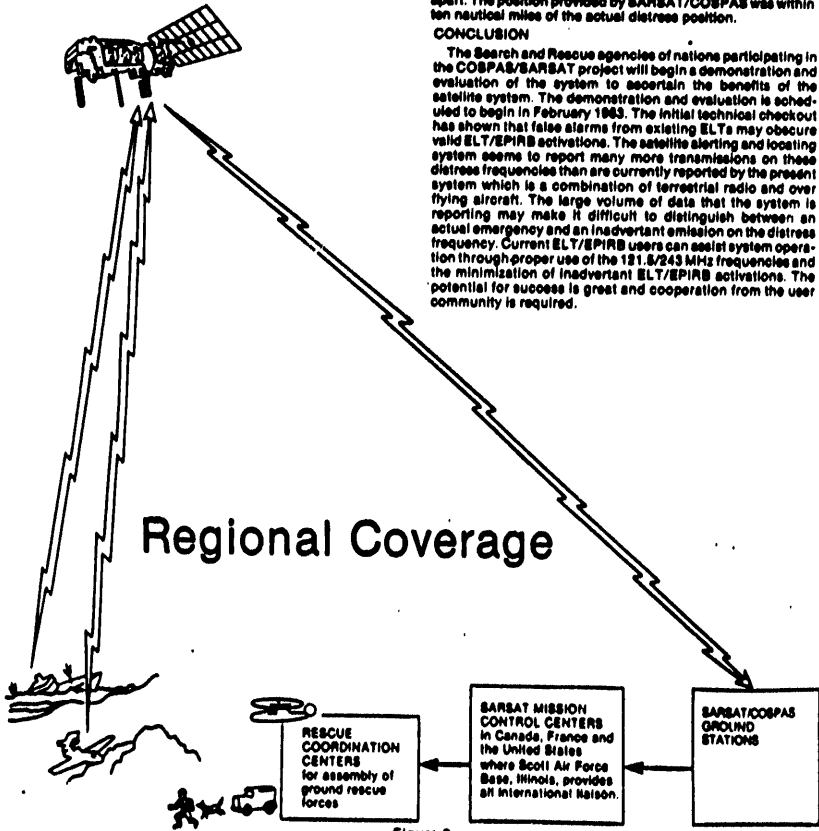
Continued from page 14

were located three hundred nautical miles northeast of Nantucket on October 11, 1982 clinging to the over-turned hull of a sixty foot trimaran in twenty-five foot seas.

The second maritime rescue using the system also involved the U.S. Coast Guard. On November 3, 1982 a sailing vessel ran aground 100 nautical miles from Grand Turk in the Caribbean. The earth station at Scott AFB processed data from a COSPAS satellite pass that identified the distress six hours after it occurred. The U.S. Mission Control Center relayed the information to the Coast Guard. A Coast Guard H-3P helicopter was launched and the five people on board were rescued eleven hours after they first ran aground. The sailing vessel ran aground in an area not normally monitored by overflying commercial aircraft and the vessel later broke apart. The position provided by BARSAT/COSPAS was within ten nautical miles of the actual distress position.

#### CONCLUSION

The Search and Rescue agencies of nations participating in the COSPAS/BARSAT project will begin a demonstration and evaluation of the system to ascertain the benefits of the satellite system. The demonstration and evaluation is scheduled to begin in February 1983. The initial technical checkout has shown that false alarms from existing ELTs may obscure valid ELT/EPIRB activations. The satellite alerting and locating system seems to report many more transmissions on these distress frequencies than are currently reported by the present system which is a combination of terrestrial radio and over flying aircraft. The large volume of data that the system is reporting may make it difficult to distinguish between an actual emergency and an inadvertent emission on the distress frequency. Current ELT/EPIRB users can assist system operation through proper use of the 121.5/243 MHz frequencies and the minimization of inadvertent ELT/EPIRB activations. The potential for success is great and cooperation from the user community is required.



Continued on page 86

Before the  
**Federal Communications Commission**    FCC 83-384  
 Washington, D. C. 20554                    33590

In the Matter of

Amendment of Part 83  
 of the rules to require  
 compulsory telegraph vessels  
 to be capable of generating  
 a specified minimum field  
 strength at a distance of  
 one nautical mile.

PR DOCKET NO. 83-11

REPORT AND ORDER

(PROCEEDING TERMINATED)

Adopted: August 31, 1983                    ; Released:    September 7, 1983

By the Commission:

1. On January 27, 1983, the Commission released a Notice of Proposed Rule Making (FCC 83-6, 48 FR 4847) looking to amendment of Part 83 to require compulsory telegraph vessels to be capable of generating a specified minimum field strength on the international distress and calling frequency, 500 kHz. The time provided for comments and reply comments has passed.

Background

2. Public Law No. 97 was approved May 20, 1937, to add to Title III of the Communications Act of 1934 (Act), as amended, a new Part II entitled "Radio Equipment and Radio Operators on Board Ship." Part II 1/ includes Section 355(e), which reads:

"(e) The main and reserve installations shall, when connected to the main antenna, have a minimum normal range of two hundred nautical miles and one hundred nautical miles, respectively; that is, they must be capable of transmitting and receiving clearly perceptible signals from ship to ship by day and under normal conditions and circumstances over the specified ranges."

1/ The text quoted is as it was amended by Public Law 89-121, approved August 13, 1965, 79 Stat. 516. The original text (as it appears in Pub. Law No. 97) in Sections 354(d) and (f), read as follows:

"(d) The main installation shall have a normal transmitting and receiving range of at least two hundred nautical miles, that is to say, it must be capable of transmitting and receiving clearly perceptible signals from ship to ship over a range of at least two hundred nautical miles by day under normal conditions and circumstances."

"(f) . . . For the emergency or reserve installation, the normal range as defined in subsection (d) of this section shall be at least one hundred nautical miles."

3. On May 31, 1938, the Commission ordered 2/ an investigation into the facts, circumstances and conditions affecting the determination of power required for ship radio transmitters in order to comply with the terms of paragraph (d) of Section 354 of the Act. A hearing, commonly referred to as the "Ship Power Hearing", was held November 14 through 18, 1938. The Report and Order 3/ in this proceeding was adopted May 19, 1939 5/ and a further Order 4/ in the same proceeding was adopted July 26, 1939.

4. On June 27, 1978, the Commission released a Notice of Proposed Rule Making 6/ (Gen. Doc. No. 78-185) proposing to amend Part 83 to require all compulsory telegraph vessels to be capable of generating a field strength of 30 mv/m at a distance of one nautical mile for the main installation on 500 kHz, and a field strength of 10 millivolts per meter at one nautical mile for the reserve installation.

5. The Report and Order 7/ in Gen. Doc. No. 78-185 explained the procedure by which the values of field strength for the main and reserve installation were developed. It responded to the comments filed and terminated the proceeding without decision, in order that additional information could be obtained regarding antennas currently installed aboard U.S. vessels. The Appendix to that Report and Order is a Public Notice expressing the Commission's intent to continue its consideration of this matter.

6. The additional measurement of U.S. shipboard installations was completed and the results were summarized in the Notice of Proposed Rule Making. Briefly, of the 32 vessels measured, only five vessels, all of which were fitted with long wire antennas, provided a field strength of 30 millivolts per meter at a distance of one nautical mile.

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2/ In Docket No. 5212.

3/ 7 FCC 354, adopted May 19, 1939.

4/ 7 FCC 365, adopted July 26, 1939.

5/ The proceeding in Docket No. 5212 determined: (1) that a field strength of 82.5 microvolts per meter at a distance of 200 nautical miles represented a "clearly perceptible signal"; (2) that this field strength (82.5 uv/m) corresponded to a field strength of 30 millivolts per meter at one nautical mile; and (3) that a transmitter of 200 watts, using a median value of efficiency (16.3%) of shipboard antennas then existing, would produce a field strength of 82.5 microvolts per meter at 200 nautical miles. Further, for the reserve installation, (4) a field strength of 10 mv/m at one nautical mile would provide a "clearly perceptible signal" at 100 nautical miles; and (5) that a reserve transmitter of 25 watts, with an antenna efficiency of 16.3%, would produce a field strength of 10 mv/m at one nautical mile.

6/ Released June 27, 1978; FCC 78-435; 43 FR 28840.

7/ Released March 24, 1981; FCC 81-96; 46 FR 19007; 85 FCC 2d 686.

### Problem

7. The problem was explained in paragraph 4 of the Notice of Proposed Rule Making, as follows:

"Over the past forty years most of the considerations leading to the established values have remained constant. The one exception is antenna efficiencies. During this period, with the swing first to singlewire antennas and then to vertical antennas there has been a progressive decline in the efficiency of antennas aboard the larger oceangoing vessels. This has continued to the point where the use of 200 and 25 watt transmitters in conjunction with presently used vertical and some longwire antennas no longer assures a field strength of 30 mv/m and 10 mv/m at a distance of one nautical mile."

### Comments

8. Comments were filed by the American Institute of Merchant Shipping (AIMS), W. N. Nations and Associates (Nations), and the Radio Officers Union, District 3 of the National Marine Engineers Beneficial Association, AFL/CIO (the Union). Reply comments were filed by the Union. In its comments AIMS opposed adoption of the proposed rule; Nations and the Union supported adoption of the proposed rules; and the Union urged the period proposed for implementation be substantially reduced.

### Proposed Rules for Assuring Transmission Distance

9. AIMS contends that the proposed field strength standard "offers a minimal return on a cost effective contribution to safety...." AIMS points to the fact that the world is now in the process of developing the Future Global Maritime Distress and Safety Systems (future distress plan). This future distress plan, according to AIMS, will replace the "outmoded" telegraphy-based safety system with "superior methods of distress calling by satellite or terrestrial communications." AIMS points out that introduction of the future distress plan on a mandatory basis is projected for the year 1990; and on a voluntary basis for 1987. Thus, AIMS concludes, it would be inconsistent for the Commission to require implementation of the field strength standard at the time when the industry is beginning to fit with new equipment to implement the future distress plan.

10. The Union acknowledges the future distress plan, but vigorously disputes predictions of its early implementation. It points to the delays which are inherent in implementation of any worldwide system and to the fact that there will be considerable overlap of the two systems while the transition takes place. The Union contends that it cannot abide a continuing condition of reduced ability to transmit a distress signal the required distance and urges, in fact, that the Commission substantially shorten the implementation period.



### Discussion

11. Our obligation is to implement the Communications Act, Section 335(e). Having concluded that a transmitter power standard is insufficient to assure the statutory transmission distances, we do not have the discretion to continue that standard in effect pending future developments which are uncertain and years off, at best.

12. AIMS contends that adoption of the field-strength standard would be tantamount to ordering replacement of transmitters and antenna feed lines aboard its members' vessels. AIMS points out that the radio installation aboard the cargo vessel "Star of Texas," which we cited as an example of an acceptable installation under the field-strength standard, features an impedance which is not the industry norm. Thus, AIMS argues, shipowners will be required to undertake costly replacement of existing transmitters and antenna feed systems in order to comply with the proposed standard.

13. The Union argues in reply that impedance matching technology is readily available and inexpensive. Commenter Nations, a maritime telecommunication consultant, agrees with AIMS that considerable modification may be necessary to duplicate the "Star of Texas" system but points out that the Antenna Engineering Department of Collins Government Telecommunications Division of Rockwell International has developed an HF/MF Vertical Ship Antenna for the U.S. Department of Commerce, Maritime Administration (MARAD). The antenna, Collins Type 938G-1, was specifically designed to provide a 30 millivolt per meter (mv/m) field strength at a distance of one nautical mile. Performance tests have shown that this antenna will deliver 8/ that field strength in most directions when a 200 watt transmitter is used. When a 350 watt transmitter is used, the antenna will deliver the 30 mv/m in all directions. Nations calculates that more than 90% of U.S. vessels are presently fitted with transmitters of more than 350 watts.

14. We conclude that switching to the field-strength standard would not involve wholesale replacement of the telecommunication equipment aboard U.S. vessels. As we pointed out when we began this proceeding, we believe that most of the present vertical antenna installations will meet the standard if the feed system is efficient. Some modification and equipment replacement may be required to be sure, but these costs are outweighed by the improvement in safety conditions which will result.

### Certification

15. In paragraph 13 of the Notice of Proposed Rule Making we stated that we would consider comments in regard to a program of self-certification as an alternative method (to measurement by the Commission) by which a vessel may demonstrate that its radio installation transmits a clearly perceptible signal the required distances.

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8/ The average value of field strength was greater than 30 mv/m.

16. A self-certification proposal was submitted by AIMS. AIMS points out that, by law, vessels must communicate with a coast station 24 hours prior to arrival in port and log the communication. AIMS suggests that the FCC use the log as a basis for determining compliance with Section 355(e) of the Act. We are concerned, however, that the 500 kHz distress system is a ship-to-ship alerting system. The statutory transmission distances are between ships, not between a ship and a coast station. Coast stations may have much more elaborate and higher gain antenna facilities than ship stations. Any self certification procedure involving transmissions between a ship station and a coast station will not provide a valid basis for assuring accomplishment with Section 355(e) of the Act.

17. In their comments, Nations and the Union oppose the concept of self-certification by communication from ship to ship on the basis that the conditions would be different in each case. Further, such communications, if carried out on 500 kHz, could intensify congestion in areas which are now heavily congested and would degrade the usefulness of 500 kHz for distress communications. Nevertheless, there is no more valid proof of a vessel's communications range than actual tests at sea. Thus we will permit a vessel to evidence that it meets the standard by producing documentation of actual communication with another vessel over the required distance. Alternatively, we will accept a certification from a professional engineer as evidence that the vessel's communications system produces the field strength specified in the new rules.

#### Implementation Period

18. The Union after arguing in favor of the proposed rules, argues for an implementation period of the less than three years. The Union expresses the view that the issue of human safety is most important and demands immediate attention. Based on the Commission's tests, the Union calculates that distress signals from 474 of the 559 U.S. deep-draft oceangoing vessels would not be heard at normal ranges. The Union expresses alarm at the Commission's proposal to allow three years to modify current installations. AIMS opposed the proposed rules and did not separately discuss the length of any implementation period.

19. The three year period which we had proposed for implementation was intended to be a reasonable length of time to allow for sailing schedules, delivery time for parts and equipment and installation time. While the Union's safety concerns are sufficient to persuade us to adopt the new rules, they provide little aid in determining what a reasonable length of time may be for their implementation. Accordingly, we consider that three years is reasonable and sufficient time for whatever retrofitting may be necessary under the new standard. We fully expect, however, that vessel operators will utilize the first opportunity to bring their vessels into compliance, and that all subject vessels will be in compliance with the new rules at the end of this implementation period.

Conclusion

20. We conclude that the amendments proposed in the Notice of Proposed Rule Making, modified for the reasons discussed herein, to require compulsory telegraph vessels to be capable of generating a specified minimum field strength, would be in the public interest. Further, these rule amendments are necessary in order that the Commission may comply with the mandate under the provisions of Section 355(e) of the Act.

21. We have determined that Sections 603 and 604 of the Regulatory Flexibility Act of 1980 (Pub. L. 96-354) do not apply to this proposed rule making proceeding because the only vessels affected are large oceangoing vessels compelled by law to be fitted with radiotelegraph equipment meeting certain specified standards. The operation of a single such vessel typically runs into millions of dollars per year. Therefore, if promulgated, it will not have a significant impact on a substantial number of small entities.

22. Regarding questions on matters concerned in this document contact Walter E. Weaver (202) 632-7175.

23. Accordingly, IT IS ORDERED, That under the authority contained in Sections 4(i) and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i) and 303(r), the Commission's rules ARE AMENDED as set forth in the attached Appendix, effective October 14, 1983.

24. IT IS FURTHER ORDERED, That this proceeding IS TERMINATED.

25. IT IS FURTHER ORDERED, That a copy of this Report and Order shall be sent to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

William J. Tricarico  
Secretary

Attachment: Appendix

A P P E N D I X

Part 83 of Chapter I of Title 47 of the Code of Federal Regulations is amended to read as follows:

Part 83 - Stations on Shipboard in the Maritime Services.

§83.441 [Amended]

1. Section 83.441 is amended by adding the following sentence at the end of paragraph (a):

\*\*\* The minimum field strength capability of the main antenna (Section 83.444(a)) and of the reserve antenna (Section 83.446(a)(2)) may be evidenced by the licensee by either (1) producing a record of communications on 500 kHz over a minimum distance of 200 nautical miles for the main antenna and 100 nautical miles for the reserve antenna which demonstrates the transmission and reception of clearly perceptible signals from ship to ship by day and under normal conditions and circumstances, or (2) providing documentation by a professional engineer not affiliated with the licensee or its service company that the installation produces at one nautical mile a minimum field strength of thirty (30) millivolts per meter for the main antenna and ten (10) millivolts per meter for the reserve antenna.

§83.444 [Amended]

2. Section 83.444(a) is amended by removing the first sentence and replacing it with the following:

(a) The main antenna shall be as efficient as is practicable. It shall be installed and protected so as to ensure proper operation of the station. Effective (insert date 3 years after release of Report and Order), the main antenna energized by the main transmitter on the frequency of 500 kHz shall produce at one nautical mile a minimum field strength of thirty (30) millivolts per meter. \*\*\*

3. Paragraph (a)(2) of Section 83.446 is amended to read as follows:

§83.446 Requirements of reserve installation.

\* \* \* \* \*

(a)(2) The reserve antenna shall be as efficient as is practicable. It shall be adequately installed and protected so as to ensure proper operation in time of an emergency. Effective (insert date 3 years after release of Report and Order), the reserve antenna energized by the reserve transmitter on the frequency of 500 kHz shall produce at one nautical mile a minimum field strength of ten (10) millivolts per meter.

\* \* \* \* \*

Mr. JONES. Thank you. I, perhaps, have one or two questions here. The FCC recently issued a proposed rule which would require the FCC to inspect a vessel's radio distress signal to determine how far the signal can radiate. Would you explain the final rule to me so that we know how this testing will be done, how many U.S. vessels will be inspected, and how much time vessels will have to comply?

Mr. McINTYRE. There are two systems which we have allowed licensees to use. One is to have a ship establish communications with another ship which is 200 miles distant and submit that as verification of meeting the 200-mile range. Secondly, we have allowed the licensee to employ a professional engineer to measure the actual field strength, established at the Power Hearing of 1939, necessary to satisfactorily send a perceptible signal for a 200-mile range.

We have taken these two actions, one to allow a professional engineer to make an actual test and, two, to allow the ship to actually communicate with another ship to make sure it can communicate over a 200-mile range. There will be changes required to some vessels to bring them into compliance. We are not sure at this time how many vessels will require modification. We have allowed a 3-year period in which these vessels are required to come into compliance.

Thank you, Mr. Chairman.

Mr. JONES. All right, sir.

Mr. McIntyre, what do you think about the following plan of action? First, require the FCC to perform an actual field test on all new U.S. vessels, and, second, require the FCC within 1 year to perform a field test on all U.S. vessels presently in operation. And, finally, require the Coast Guard to reinspect the radio every year thereafter by using the less time-consuming meter test and, at the same time, the Coast Guard performs its regular inspection?

Mr. McINTYRE. Well, Mr. Chairman, let me say that the Commission has just recently acted on a proceeding which addressed the problem existing onboard some U.S. vessels. That proceeding has resulted in the procedure that I have described to you. When our people inspect these vessels they will make sure that the equipment condition is such as to insure that the 200-mile range will be met.

If for some unforeseen reason problems develop then we may consider some other procedure such as you have outlined. But I think at the present time, Mr. Chairman, we should proceed as outlined in the recent report and order that was adopted, and follow those procedures.

Thank you, sir.

Mr. JONES. Thank you, Mr. McIntyre.

Mr. Studds, do you have any questions?

Mr. STUDDS. Just one. Mr. McIntyre, I am sure the FCC is doing a fine job. But there are a couple of things that I find intriguing in your statement. You take umbrage at the suggestion of the previous witness that the Commission has somehow been derelict in its inspection responsibilities. You say that is just not the case. The problem that appears to exist now arose when vertical antennas began to replace long wire antennas.

According to your statement, on page 4, that process began in the late 1950's, about 25 years ago. Your response was to conduct some tests at five different ports in 1961 which indicated there was no problem with the new antenna. In the late 1960's you found cause to believe otherwise and initiated a proceeding that didn't go anywhere. Ten years later you initiated another proceeding which was judged, to use your word, "premature." That is page 5.

Then as I understand it, you initiated a study of 32 vessels to see if the antennas actually worked as they were supposed to. They didn't. Now, you have adopted a rulemaking or proceeding which will give ship owners 3 years through a self-certification process to bring their antennas up to a legal standard that has existed since 1973.

Now that may not be dereliction, but don't you concede that it is at least a bit slow?

Mr. MCINTYRE. Yes, Mr. Studds. I would say it is a bit slow. But the matter is not a clearcut matter, sir. In 1978, when we went out with a proceeding on this matter, it was thought that we had an antenna which would meet the requirements and allow the vessels to comply. This turned out not to be the case.

The Commission examined the vertical antenna in its laboratory did tests and found the antenna was not adequate. That proceeding was terminated in 1978 and led to the 32 vessel field test conducted by our field bureau.

Mr. STUDDS. Thirteen years later.

Mr. MCINTYRE. No, I believe that proceeding was terminated in 1978. I may have used the wrong date.

Mr. STUDDS. I don't want to be picky, but I mean, isn't this requirement rather essential in terms of basic safety at sea? Ought we not to have a little more urgency in terms of a standard that has been in the law since 1973? Is this a difficult technology, to find out whether a ship can be heard 200 miles away? Can't we do that?

Mr. MCINTYRE. Yes, sir.

Mr. STUDDS. Why do we need proceeding after proceeding after proceeding? Why don't we do something if this is a terribly important thing directly bearing on the safety of lives at sea?

Mr. MCINTYRE. Because it is not an easy thing to do for one thing, Mr. Studds. It is very difficult to make field strength measurements on every ship every year. No administration internationally does that. What administrations do is to determine that the power going into the antenna is of a certain level. This the Commission had done. When the vertical antennas first came on the scene we did tests, in five port areas, on a number of vessels, and these tests indicated that the vertical antennas were adequate.

I quite frankly, sir, am not sure exactly what has led to the degradation of the field strength, it has been a gradual thing and an insidious thing over the years. The Commission instituted the proceedings in the late 1970's to look at this problem. The Commission determined that the vertical antenna which was the subject of that proceeding was not adequate to do the job, and then suggested that we needed additional information. That resulted in the 32 vessel survey that you are familiar with.

I will admit, sir, that it is a long time between the 1960's when this matter first came to the Commission's attention and when the problem was resolved.

Thank you, sir.

Mr. STUDDS. I would hate to be in trouble at sea while the FCC was dealing with the situation, I will tell you that.

Mr. MCINTYRE. Well, sir, you have to bear in mind one thing; the requirements of the United States are more stringent than has been internationally accepted. One hundred fifty miles is internationally what is accepted.

Mr. STUDDS. But we don't—OK. I don't sense a degree of urgency even for a Federal agency here. Do antennas deteriorate? Once you have tested them do you have to retest them?

Mr. MCINTYRE. Antennas do deteriorate with time, yes, sir. Salt gets on various portions and will cause difficulties; yes, sir.

Mr. STUDDS. I hope you will go back there and do something to the proceedings that accelerate them a bit so we are not here, you know, in generations of hearings to trying to find out where you are proceeding with the proceedings to do something about proceeding to enforce the 1937 statute, particularly as I say, if, all lightheartedness aside, if it bears directly to major questions of safety at sea, one would hope at least that even the Federal Government could conduct itself with somewhat greater sense of dispatch than this.

Mr. MCINTYRE. Yes, sir. If I might, sir, I appreciate your comments and certainly don't take them lightly at all. I would just point out that the microvolts per meter figure that we are addressing does not necessarily assure that a vessel will not transmit 200 nautical miles. It is inferred but it is not absolute. So that a vessel may have less than the required microvolts per meter field strength and still transmit a distance of 200 nautical miles.

Mr. STUDDS. I give up. Thank you.

Thank you, Mr. Chairman.

Mr. JONES. Mr. Forsythe?

Mr. FORSYTHE. Thank you, Mr. Chairman. I hesitate after Mr. Studds says he has given up.

It still seems to me that the FCC failed to put together some system that deals with the statute rather than the output from the vessel. You have just said that some vessels do, though showing a lower output on the test, still transmit 200 miles. Don't we have the technology to know what kind of combination works to meet the 200-mile statutory requirement?

Mr. MCINTYRE. Mr. Forsythe, it is a statistical type of a thing. The atmospheric noise varies. And at the frequencies this system operates at the atmospheric noise present may vary from day to day and season to season. So it is an average-type of figure that we are looking to which does in fact vary as a function of the time of day and season of the year.

Mr. FORSYTHE. Would we be better going back to Marconi?

Mr. MCINTYRE. The 500 kilohertz is not too far from Marconi, sir, to be perfectly frank. That is why the International Maritime Organization is looking at a new system.

Mr. FORSYTHE. I can only agree with Mr. Studds, that it would seem that it has been a rather unduly long time to try to find a

way to come up to either meeting the standard, or conceding the standard can't be met universally, and try and go from there.

Mr. McINTYRE. I would admit that the period required was long, sir.

Mr. FORSYTHE. I concede. Thank you.

Thank you, sir.

Mr. JONES. Mr. Carper?

Mr. CARPER. I have no questions. Thank you.

Mr. JONES. Mr. McIntyre, I thank you very much for your appearance here today.

Mr. McINTYRE. Yes; thank you very much, sir.

Mr. JONES. We will call the next witness. The next witness is Mr. Tal Simpkins, executive director of the AFL-CIO Maritime Committee.

**STATEMENT OF AL ZEIDEL, SAFETY DIRECTOR, NATIONAL MARITIME UNION OF AMERICA, ACCOMPANIED BY TAL SIMPKINS, EXECUTIVE DIRECTOR, AFL-CIO MARITIME COMMITTEE**

Mr. SIMPKINS. Mr. Chairman, this is Al Zeidel. He is the safety director for the National Maritime Union. With your permission he will present our statement.

Mr. JONES. Mr. Simpkins. Mr. Zeidel, you are recognized, sir.

Mr. ZEIDEL. Thank you.

We thank you, Mr. Chairman, for the opportunity to appear and present our views on a subject that is of extreme importance to us. We agree with you that the inspection procedures should be improved and the penalties made stiffer. We also endorse the reporting requirement changes. How these proposals mesh with the recently passed recodification bill, H.R. 2247, is unclear to us.

We had hoped that the final report on the *Marine Electric* disaster would have been published by now. For this reason we shall not comment at this time on that disaster. When this report is issued we suggest that your committee may want to reopen these hearings to consider what safety recommendations the report may contain.

The issue of safety is of extreme importance to the seaman because it is he who suffers the most in a maritime accident or disaster and it is for this reason that we ask for more involvement for seamen in safety matters. Ships can be replaced, individual seamen cannot. Some have implied that we don't have to sail them if we think they are unsafe. I am sure the committee is aware that it is just not that simple.

In retrospect, everyone knows that after a ship sinks it was unsafe. If we were to take the issue into our own hands and on a unilateral basis tie up ships that were in our minds unsafe, for whatever reasons, we would hear more often than we do now, "American seamen have to get competitive." We instead propose that the seamen and their unions be consulted by the Coast Guard in its vessel inspections.

In our mutual endeavors to improve safety on U.S.-flag merchant vessels, we ask that you amend H.R. 3486 to include the following recommendations:



## MANNING CERTIFICATES

The issuance of the manning certificate and the impact of the Coast Guard on this important aspect of safe shipboard operation is of paramount concern to seamen. The Coast Guard's role concerning this issue commences at its initial inspection of a ship prior to operation when a determination of a vessel's certificate of manning or minimum manning standards is made. The Coast Guard is legally mandated to determine the number and type of personnel necessary for the safe navigation of a vessel.

Unfortunately—and we cannot exaggerate our feelings in this regard—the Coast Guard recognizes only the basic deck and engine department navigation and watchstanding personnel in its certificate. In other words, only the ratings necessary to navigate the vessel from point A to point B, period. All other vital aspects of the total operation of a ship such as seamen's safety are not accounted for.

The combination of technological innovation aboard ship and the ever-present pressures of operating in an internationally competitive environment has given greater stature to the Coast Guard's minimum standards. Once utilized as a floor from which additions were made to account for the other aspects of shipboard operation not addressed by the Coast Guard, today the manning certificate resembles more of a ceiling.

On most new oceangoing construction the manning levels called for in the certificate are a captain, three mates, four engineers, a radio officer, six able seamen and three unlicensed engine department watchstanders. In the real world, these 18 berths, along with the minimum necessary stewards department personnel, now frequently comprise the entire shipboard complement. I might add that the total approved is now even less than 18 where a periodic unmanned engine room is certified.

The shipowners have told the seamen that unless such manning scales are agreed to, ships will not be constructed or purchased. Companies argue that the myriad automated shipboard features eliminate much of the traditional repair and maintenance function. Similar pronouncements are made concerning existing vessels where, the argument goes, retrofitted equipment justify manning reductions.

In actuality the maintenance function has not been diminished. Routine and continuous maintenance is required aboard all vessels, especially older ones, of which there are many in the U.S.-flag fleet, in order to assure ongoing operations, or even seaworthiness. Equally so, repairs are often required aboard new construction which carry complex equipment not fully tested.

Continuous maintenance is needed for the safe upkeep of a ship's superstructure, cargo handling and securing gear, engine room machinery, firefighting equipment and stations, lifeboats and lifeboat launching equipment, etc. If proper attention is to be paid to watchstanding duties, and if manning levels are not to exceed that amount deemed by the Coast Guard as necessary for safe navigation, then obviously such routine maintenance can only be performed during overtime hours. This constant diet of excessive work hours can only induce fatigue in seamen who today already are

placed in a stressful environment aboard ships of ever-increasing size oftentimes carrying hazardous cargoes, transiting crowded waters. This overtime work may nominally be voluntary but where there are insufficient volunteers it then becomes mandatory. The volume of grievances processed by the unions dealing with discharge for failure to work required overtime is a growing phenomenon.

Another strategy now in vogue is to merge dayworking responsibilities into watchstanding ratings designated by the Coast Guard as responsible for safe navigation.

Mr. JONES. Mr. Zeidel, the Chair would appreciate your entering your statement in its entirety at this point in the record and let us move on to questions. Do you have any objection to that?

Mr. ZEIDEL. No.

Mr. JONES. Then we will direct questions. The bells have rung and members will have to go vote. We will proceed with the questions and try to conclude.

Mr. ZEIDEL. Yes, sir.

[The statement of Mr. Zeidel follows:]

STATEMENT OF AL ZEIDEL, DIRECTOR OF SAFETY, NATIONAL MARITIME UNION OF AMERICA, AFL-CIO

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ation not addressed by the Coast Guard, today the manning certificate resembles more of a "ceiling." On most new oceangoing construction the manning levels called for in the certificate are a captain, three mates, four engineers, a radio officer, six able seamen and three unlicensed engine department watchstanders. In the real world, these eighteen berths, along with the minimum necessary stewards department personnel, now frequently comprise the entire shipboard complement. I might add that the total approved is now even less than eighteen where a periodic-unmanned engine room is certified.

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Another strategy now in vogue is to merge dayworking responsibilities into watchstanding ratings designated by the Coast Guard as responsible for safe navigation. For example, aboard a newly-constructed collier vessel, management insisted that each able seamen be rerated to a combined rating of able seaman/gateman/conveyorman. Thus, in addition to watchstanding duties, these seamen must now work long hours in cargo transferring operations.

The point we wish to emphasize is that twelve to fourteen or more hours of work per day is now virtually required, seven days a week, for the duration of a seaman's stay aboard ship. Suffice it to say, a mockery is being made out of laws and regulations mandating an eight-hour day for seamen "except under extraordinary conditions."

Previously we referred to the manning certificate as a "ceiling." Perhaps a more appropriate description would be an "elevator." There have been instances where managements have demanded our consent to proposed manning levels, which in our judgment did not appropriately address the need for safe navigation and maintenance. It has been our contention that operation and maintenance are two sides of the same coin. Properly maintained equipment is essential for safe operation and sufficient manning levels are required for properly maintained equipment. Company obstinance was ameliorated only when the Coast Guard decreed the company proposals insufficient to meet even the safe navigation criteria. We have even been approached on occasion by management to agree to contingent manning levels below the certificated amount, pending company success in convincing the Coast Guard to amend the vessel manning requirement downward. Our Great Lakes contracted companies took a different approach. First they convinced the Coast Guard to drop three deckhands from the manning certificate and then they pressured the unions to implement the Coast Guard change.

So far we have emphasized that Coast Guard manning criteria are insufficient during normal operating conditions. What makes matters worse is that the manning determinations presuppose voyages without incident. Since no margin for error is made, obviously one has to seriously question the adequacy of the certificated shipboard complement as regards to ensuring sufficient personnel to cope with any number of emergency situations. For example, aboard a highly-automated vessel carrying a reduced crew, a malfunction occurs to the automatic or remote equipment. The crew now becomes responsible not only for the safe navigation of the vessel, but also for repairing the inoperable equipment and performing the function of the inoperable equipment on a manual basis.

As stated by a captain in a recent study of the Coast Guard's effectiveness in maritime safety:

"When the automated equipment is working as it is theoretically designed to do—the manning scale (in the engine department) is probably adequate. Unfortunately, fuses blow, resistors fail, parts collapse, electronics get wet and full of condensation—and that's when automation and minimum manning scales go right out the window."

This, of course, presumes the ability to operate an automated vessel on a manual basis where the personnel is available. But, for example, the Coast Guard does not require the manning of the steering engine room during maneuvering in close waters. Instead it supports the concept of duplicate steering systems. But such redundancy is not required.

Other emergencies which are not addressed in the determination of manning standards include provision for supplemental crewmen in case of illness, injury or death; or the safe, effective handling of lifeboats and participating in other life-saving procedures; or giving assistance to another vessel if in distress.

In specific terms, we believe the manning certificate should take the following into consideration:

(1) Routine maintenance and repair, cleaning of tanks, loading and discharging of cargo in port.

(2) The human complement necessary to ensure continued operation while malfunctioning automatic and remote control equipment is being repaired.

(3) Adequate manning to ensure that the ship complement can cope with onboard emergencies.

(4) Adequate manning to ensure that the ship assist other ships in distress.

(5) Hours of work per day. Mandatory overtime introduces a fatigue factor due to sleep deprivation which is directly related to accidents and poor operating decisions.

(6) The continuous maintenance needed for the safe upkeep of a ship's superstructure, cargo working and securing gear, engine room machinery, fire-fighting equipment and stations, emergency equipment, lifeboats and lifeboat launching equipment.

#### WORK PLACE HAZARDS

The Coast Guard has the jurisdiction and authority for safety and health in the maritime industry but has accomplished very little. Breathing apparatus when entering tanks should be mandatory. Ship's personnel should be informed when working with cargo, liquid or otherwise, that is dangerous. Standards should be established and regulations enforced with hazardous chemicals, cargo, dust, noise, asbestos, and fumes. Prompt action should be taken to remedy problem areas which have repeatedly been responsible for accidents. It is the declared policy of Congress to assure so far as possible, safe and healthful working conditions for every working man and woman in the Nation.

The crew and unions representing them should be periodically interviewed for their opinions and we would suggest an ombudsman to whom seamen and unions can make complaints about serious conditions existing aboard ship on an anonymous basis.

#### EXAMINATION AND CERTIFICATION

Examinations given by the Coast Guard which are necessary for the issuance of endorsements on seamen's papers required for certain ratings are not uniformly given. In an effort to accommodate the oil companies in the Gulf, for example, it will give easier tests to seamen who will be serving on oil rigs. We have no objection to this if the endorsements were applicable only to oil rigs. In an increasing number of cases, after the seamen received the endorsement because of the accommodating test, they will attempt to use it on a deep-sea ship where they are not competent to serve.

One of two things would eliminate this unsafe condition—all tests should be the same or when easier tests are given to accommodate a particular segment of the industry, the document should be restricted to that segment.

#### ORIGINAL SEAMEN'S DOCUMENTS

Before original seamen's documents are issued the applicant should be required to pass a propensity to violence test and a psychiatric check. Food handlers should be subjected to a thorough medical and blood test examination prior to receiving seamen's papers.

An applicant for original seamen's papers should have proof or demonstrate that he has never had a psychiatric illness; used drugs; had alcohol abuse; been treated for a continuing chronic disease or illness.

The Coast Guard should keep records of seamen who have been evaluated by the union and the shipping company as psychiatrically not-fit-for-duty.

It is extremely important, because seamen live in confined quarters for extended periods of time, that efforts be made to prevent as many potential risks as possible to ensure a safe ship.

These tests were given by the Coast Guard and the Public Health Service prior to the elimination of seamen's entitlement to medical care and the Coast Guard's move to reduce expenses.

#### EXPOSURE SUITS

On February 3, 1983, the Coast Guard published a rule which if adopted would require exposure suits under certain conditions to be carried on oceangoing and coastwise cargo and tank ships. This requirement to carry exposure suits would not apply if the vessels carried "enclosed lifeboats" or if they operated in "warm" waters of 60°F or above.

Exposure suits should be carried on all vessels operating in waters of 70°F or less and irrespective of whether or not they carry "enclosed lifeboats." Often, either lifeboats cannot be launched or are difficult to board after launching. Adverse weather conditions and the resultant cold water temperatures and high seas may further complicate both the launching and boarding of lifeboats.

The Coast Guard in its explanations of the rule explained that "(t)he risk of hypothermia exists in virtually all waters with temperatures less than 70°F. . ."

The adoption of this rule as we have requested would bring about a much-needed safety requirement. A better approach would be for the Congress to enact legislation requiring exposure suits.

#### ROTATION OF COAST GUARD INSPECTION OFFICERS

Competent safety inspections can only be performed by qualified inspectors. We believe that technical knowledge and experience are necessary to develop a qualified inspector.

The current Coast Guard practice of rotating its personnel from assignment to assignment makes it extremely difficult to develop the quality inspector necessary. We have no objection to the Coast Guard continuing as the inspection agency if its policy of rotation is changed. Moving inspectors from port to port would be helpful as long as their duty assignment stayed the same. To develop the necessary expertise the inspectors must be permanent.

#### MEDICAL EQUIPMENT

The law requires that each ship carry a medicine chest. We ask that the ship's annual inspection include a check of the medicine chest to make sure it is kept up to date. Additionally, there should be a requirement that a log be kept of expended medications.

#### MANNING OF STEERING GEAR

Manning of the steering gear room should be mandatory when the ship is maneuvering in close or congested waters if the ship does not have a duplicate steering gear control system equipped with test devices that would indicate whether or not the gear was operating.

#### SAFETY ADVISORY BOARDS

Formal advisory boards that would include labor representatives to assist in the investigation of maritime accidents should be established.

The Coast Guard inspection officers should seek input on a routine basis from the seamen who man the ships.

That concludes our detailed suggestions on how to improve safety on U.S. flag vessels.

Much has been said about eliminating old, unsafe "rustbuckets" from the U.S. fleet. We would agree that they should be removed but they are not that easy to detect. Age itself is not the sole determining factor. We ask that you give consideration to requiring ships when they reach a certain age to undergo more stringent checks at more frequent intervals.

We had intended to address safety, or the lack of it, on the inland waterways. We shall not do so at this time but request that the committee at some time soon address this subject.

Thank you.

Mr. JONES. I have one question directed to Mr. Simpkins. Section 3 of H.R. 3486 imposes upon the master of a vessel required to report to USMER a responsibility to report to the owner or operator of the vessel every 48 hours. That owner or operator, in turn, will be required to notify the Coast Guard if the master should fail to report on time. Do you support this provision?

Mr. ZEIDEL. Yes.

Mr. JONES. OK. Do you believe the marine inspection program should be transferred to an entirely civilian organization?

Mr. ZEIDEL. No. No, we don't go along with that. We are not against it, but we feel that the U.S. Coast Guard can do the job if they allow the inspectors to be inspectors as a full-time job. We are not against their being shifted from New York to San Francisco after a period of time or anywhere around the country. But the inspectors should be inspectors all the time.

Mr. JONES. In other words, you do not approve of the turnover when it brings in inexperienced inspectors?

Mr. ZEIDEL. That is correct, sir.

Mr. JONES. What legal responsibilities do the officer and crew of merchant vessels have to report safety violations on their vessel direct to the Coast Guard? Does your union encourage reporting violations to the Coast Guard?

Mr. ZEIDEL. Yes; I can give you some example of some nothing has been done about. We have——

Mr. JONES. Perhaps one or two.

Mr. ZEIDEL. Yes; I can give you one. We have time and again a problem with captains that want to save an hour overtime, and when traveling in the Mediterranean from one port to another overnight, they will bring the gangway up to level with the deck but won't flop it in alongside the railing, which means that it is now directly under the life boat. And in an emergency the lifeboat cannot launch because it can't pass the gangway. And we have told the Coast Guard about this on more than one occasion, and the Coast Guard has not done anything about it.

But we have been able to do something about it within the union and the company. But it is a practice that an issue should be made of by the Coast Guard to tell all ships about it.

Mr. JONES. Mr. Zeidel. Thank you.

Mr. Studds.

Mr. STUDDS. Thank you, Mr. Chairman.

Let me ask you, if I may, just one question, sir, under the time constraints. At an earlier hearing of the subcommittee, Mrs. Lise-lotte Fredette, whose son was lost on the *Poet*, made the following recommendation, quoting from her testimony:

Limitation of liability laws must be amended for the benefit of seaman including at least a substantial increase in minimum liability limits for vessel disasters presently based on vessel tonnage assessments last established in 1935.

Do you concur with that recommendation of hers?

Mr. ZEIDEL. Well, I am not fully familiar with it.

Mr. STUDDS. OK. Her argument was that there is grossly inadequate liability on the part of those vessels in the case of disasters that lead to loss of life.

Mr. SIMPKINS. We would be in favor of increasing this limitation; yes, sir.

Mr. STUDDS. Thank you. Thank you, Mr. Chairman.

Mr. JONES. Mr. Forsythe.

Mr. FORSYTHE. No questions.

Mr. JONES. Mr. Carper.

Mr. CARPER. No questions.

Mr. JONES. Thank you.

Then thank you very much for your presence here today, and your statement will be included in the record in its entirety. Thank you very much.

Mr. ZEIDEL. Thank you.

Mr. JONES. The Chair will declare a 5-minute recess, and we will hear the final witness upon completion of this vote.

[Recess.]

Mr. JONES. The subcommittee will come to order, please.

Our last witness today is Mr. Martin W. Bercovici, representing Mobile Marine Radio.

You may proceed, sir.

#### STATEMENT OF MARTIN W. BERCOVICI, ESQ., REPRESENTING MOBILE MARINE RADIO, INC.

Mr. BERCOVICI. Thank you, Mr. Chairman. I am representing Mobile Marine Radio, which is a communications common carrier located in Mobile, Ala., which provides communication service to vessels at sea. We have submitted a written statement which is part of the record. I won't burden you with reading the statement into the record.

If I may, sir, I would like to summarize, and there are a couple of additional comments that I do have.

Mr. JONES. Without objection so ordered.

Mr. BERCOVICI. Our interest in this bill relates to section 3(c) which proposes to subsidize up to 50 percent of the cost of the purchase and installation of a marine satellite communications system. As Mr. McIntyre from the FCC testified this morning, there are two modes of communicating with vessels at sea. One is by high-frequency radio, the traditional means that has been around for years and years. And the other is by satellite.

Mobile Marine Radio is a high-frequency radio carrier. There is a single satellite maritime carrier, the Inmarsat system. There are a number of terrestrial or high-frequency companies. There are five major companies which render the service—AT&T renders phone service; ITT, RCA, and TRT render telegraphy and telex service. My folks, Mobile Marine Radio, offer phone, telegraphy, and telex services, a full complement of services.

This is a highly competitive service. Not only do we compete between each other for the traffic between ship and shore, we compete with the satellite and compete with coast stations located in other countries. We think it is evident from this background why we are concerned about section 3(c) of the bill.

As Mr. McIntyre stated, both satellite and HF communications provide adequate and effective communications between ship and shore. The IMO future global proposal and the domestic program administered by the Secretary of the Navy and Maritime Administration for national defense features programs have both recognized satellite and HF as alternative means of satisfying communications requirements for ships at sea.

We feel it would be highly inadvisable for the committee to report out a bill which provides a subsidy to just one of competing modes of communication service. We also would be deeply hurt if the committee reported out this bill in its current fashion, given that Inmarsat is essentially a foreign-owned system, 76-percent owned by foreign administrations. We really can't understand the Federal Government subsidizing foreign governments to compete with American companies.

We don't oppose or support, per se, the subsidizing of communications equipment onboard vessels. If section 3(c) is retained, we urge it be expanded to encompass high-frequency radio systems and would encourage that the users be allowed the freedom to choose which type of system they purchase and install. We have appended suggested language to our testimony which would tie this into the national defense features program, and that would be the means of certifying which type of system users could choose from.

We have two additional suggestions if section 3(c) is retained. We believe, especially in view of the Federal budgetary deficits, that a budgetary perspective should be placed upon the section. First, rather than pegging the subsidy at 50 percent of actual cost of purchase, we believe the subsidy should be limited to 50 percent of the cost to purchase and install a communications system which is adequate to meet safety standards. If the user wants a system with all the fancy whistles, lights, and bells, the user can pay for that incremental value that he receives himself.

Second, we believe that the subsidy should be limited to the first system to be installed aboard the vessel, whether it is an HF radio or a satellite system. The purpose of the bill is to enhance maritime safety. The two systems are recognized as alternative. We don't see the need to have redundancy, at this point in time, until it is mandated by regulation. In order to spread the money around, and to make the \$10 million proposed to be authorized by section 3(c) go farther, we suggest that the user that already has a system onboard that meets the safety standard shouldn't be able to take advantage of the subsidy. Or once they have one system onboard, they can't use the subsidy for a second system. If this happens, as we say, the money we think can go farther to enhance safety of vessels, perhaps removing the 1,000-gross-ton limitation and extending the intended enhancement of safety to vessels which do ply the seas which don't meet the 1,000-gross-ton minimum size.

That is the extent of our testimony. I would be happy to answer any questions you may have, sir.

[The statement of Mr. Bercovici follows:]



STATEMENT OF MARTIN W. BERCOVICI, ATTORNEY, ON BEHALF OF MOBILE MARINE  
RADIO, INC.

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

On behalf of James L. Dezauche, Jr., President of Mobile Marine Radio, Inc., I wish to express our appreciation for affording us the opportunity to testify on the Maritime Safety Act of 1983.

Mobile Marine Radio (MMR) is a communications common carrier located at Mobile, Alabama, which renders service between vessels operating on the high seas, in the coastal and offshore waters, and along the Alabama River System on the one hand and points located throughout the United States and abroad on the other. Mobile Marine Radio offers a full range of communications services to the maritime community, including telephone, telex, Morse Code telegraphy and facsimile services. Through use of its radio transmitting and receiving facilities operating in the high frequency band (4-22 MHz), MMR's radio signals reach halfway around the world; and accordingly, MMR can and does communicate with vessels operating on the high seas throughout the globe. Among the domestic maritime carriers, Mobile Marine Radio has been the pioneer in the offering of modern ship-shore telex and facsimile services.

MMR competes in the provision of maritime communications services to vessels on the high seas with other domestic high frequency radio common carriers (also known as terrestrial coast stations), namely AT&T in the rendition of telephone service and ITT, RCA and TRT in the provision of telegraphy and telex services. Competition also exists between MMR and maritime coast stations in Europe and at offshore points, including Bermuda, in that vessels may and do communicate via foreign coast stations which then route the traffic back to the United States by means of the international telex and telephony networks. Additionally, and as pertinent to the proposed Maritime Safety Act of 1983, MMR and the other terrestrial carriers compete with the maritime satellite system, i.e., INMARSAT, for this same vessel traffic.

Our interest in H.R.3486 pertains to Section 3(c) of the bill which proposes to amend Section 502 of the Merchant Marine Act of 1936 (46 U.S.C. 1152) to authorize the Secretary of Transportation to subsidize up to 50% of the cost "of the purchase and installation of a marine satellite telecommunications system" for vessels of more than 1,000 gross tons. Mobile Marine Radio does not take

a position as to whether the Federal government should subsidize the purchase and installation of maritime communications equipment as a means of enhancing maritime safety. We note that the policy issues underlying such an expenditure of public monies are being addressed by other interested parties. Rather, our specific interest in H.R.3486 lies in the language of Section 3(c) which would limit the proposed subsidy to use for the purchase and installation of a marine satellite telecommunications system.

MMR respectfully submits that Section 3(c) of the bill, as drafted, is highly discriminatory. Moreover, limitation of the subsidy to satellite equipment is inadvisable both as a matter of public policy and as a matter of telecommunications management and policy.

The subsidy contemplated by this bill inures not only to the benefit of the vessel owners and operators, but also, and directly, to the benefit of Comsat and its foreign partners--the latter of whom own 76.6% of INMARSAT. By underwriting the installation of satellite terminals, the Congress effectively would be directing traffic to INMARSAT inasmuch as said equipment cannot be utilized to communicate with the terrestrial coast stations. We find

no public benefit in expending tax dollars to favor the foreign governments which are the principal owners of INMARSAT to the competitive disadvantage of United States communications common carriers such as MMR, AT&T, IT&T, and RCA.

Section 3(c), as drafted, would place the official Congressional "seal of approval" on the satellite system and likely would significantly influence the user community in its choice of which mode of service -- terrestrial or satellite -- to employ. From the standpoint of technical and operational considerations, we respectfully submit that there is no reason to prefer satellite communications systems over terrestrial maritime communications systems. As noted earlier, MMR has the capability of communicating with ships on the ocean areas throughout the world. Certainly, atmospherics and other conditions affect radio propagation and the use of HF radio communications; however, satellite service also is subject to limitations, including those caused by the pitch and roll of the vessels and whether the ship enjoys an appropriate "look angle" at the serving satellite. Both modes offer highly reliable maritime communications, and neither satellite nor terrestrial systems provides 100% assurance of communications capability on a demand basis. For safety purposes, we believe the user

enjoys an advantage with HF communications in that the system itself provides alternatives through a shift of frequency band and through the wide choice of coast stations available worldwide.

Both domestically and internationally terrestrial and satellite systems have been recognized as equivalent to satisfy safety and National Defense communications objectives. For example, Public Law 96-387 concerned the enhancement of National Defense Features with respect to merchant shipping, and consideration was given to subsidizing the installation of modern communications equipment on merchant vessels.<sup>1/</sup> In conjunction with that program the Secretary of the Navy "determined that a priority defense feature is equipment necessary to permit real time communications among naval vessels, merchant vessels, and communication facilities and has suggested that such equipment should be on all U.S.-flag vessels likely to be involved in national security support operations in the event of a war or national emergency." The equipment determined to satisfy the National Defense Features objectives consisted of a high frequency

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<sup>1/</sup> See, 46 Fed. Reg. 45164 (Sep. 10, 1981).

transmitter, high frequency receivers, a radioteletype system with automatic error correction, maritime digital selective calling system, and MARISAT (Marine Satellite) terminal. Even though the National Defense Features vessel outfitting program was suspended due to the nonavailability of funding,<sup>2/</sup> the program served to establish that both the Navy and the Maritime Administration of the Department of Transportation consider that both terrestrial and satellite systems satisfy National Defense communications requirements.

Additionally, the International Maritime Organization (IMO) currently is considering the Future Global Maritime Distress and Safety System. This is discussed in a notice issued by the Federal Communications Commission on May 11, 1983.<sup>3/</sup> The mandatory carriage requirements for the Future Global Maritime Distress and Safety System, as currently proposed, consist of (i) emergency position indicating radiobeacon equipment and (ii) either a high frequency or a satellite system for communications purposes.

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<sup>2/</sup> 47 Fed. Reg. 5732 (Feb. 8, 1982).

<sup>3/</sup> International Maritime Organization: Provisional Recommendations and Amendments to the Safety of Life at Sea Convention; 48 Fed. Reg. 22632 (May 19, 1983).

No agency involved in planning to satisfy maritime communications requirements has prescribed the use of satellite communications to the exclusion of HF communications or otherwise has denied the vessel owners and operators the option as to which system to install. Indeed, the Coast Guard itself operates high frequency systems in discharging its safety responsibilities. We further respectfully submit that it would be poor public policy for the Congress to subsidize the commercial installation of satellite communications systems to the exclusion of terrestrial communications systems. Not only would such a preference be prejudicial to the American companies which render maritime communications services, but also we believe it would be disadvantageous to the users inasmuch as the rates and charges for satellite service are greater than the rates and charges for terrestrial services -- by 78% for telex and 89% for telephone, respectively. Moreover, in times of emergency, and particularly National Defense emergencies, utilization of terrestrial service presents the advantage of offering vessels multiple stations in the United States through which they may communicate, thereby providing additional flexibility and enhanced opportunity for obtaining necessary contact with shore-based facilities.

Rather than Congress making vessel equipment decisions, we respectfully submit that the expert and involved administrative agencies should make said decisions. Such a mechanism currently exists for making said decisions, namely through the National Defense Features program; and we believe that said mechanism should be utilized in conjunction with the subsidy program contemplated by H.R.3486. Substitute language is appended as an attachment to my testimony.

One additional facet of the bill appears to require clarification. Inasmuch as the objective of the bill is to facilitate maritime safety, Section 3(c) also should be clarified to be inapplicable to any vessel once equipped with a communications system which meets the outfitting objectives.

We appreciate the opportunity to testify before the Subcommittee, and I would be pleased to respond to any questions you may have.

\* \* \* \* \*



Attachment

Suggested Amendment  
to  
Section 3(c)(1) of H.R.3486

(c)(1) Section 502 of the Merchant Marine Act, 1936 (46 U.S.C. 1152), is amended by adding at the end of subsection (i) the following new subsection:

"(j) To the extent provided in advance by appropriations acts, the Secretary of Transportation may enter into an agreement with the owner of a United States vessel of more than one thousand gross tons that is engaged in foreign commerce to provide for not more than 50 per centum of the cost of the purchase and installation of a ~~marine satellite telecommunication system~~ national defense features communications system, as determined pursuant to subsection (i) above.".

Mr. JONES. I don't have any questions as such. I would like to clarify one statement. During your testimony you were surprised that the bill has been reported out. The bill has not been reported out. It will be considered by the subcommittee next week, and I am reasonably certain there will be changes made in the original language.

Mr. BERCOVICI. I am sorry if I implied that. I understand it has not been reported out. I was intending to say if it is reported out.

Mr. JONES. Thank you for your appearance here today. Sorry to detain you so long, and that you didn't have the benefit of more members. But when we are in this voting stage, some members go to the floor and stay, and some come back.

We do want to conclude the hearings so we can move to subcommittee consideration next week.

Mr. BERCOVICI. I very much understand. Thank you for having us, sir.

Mr. JONES. Thank you for being here.

There being no further business, the Chair declares the meeting adjourned.

[Whereupon, at 12:50 p.m., the subcommittee was adjourned, to reconvene subject to the call of the Chair.]

[The following was submitted for the record:]

PAUL D. P. SPEARMAN  
(1936-1962)  
FRANK ROBERTSON  
(1936-1965)

VINCENT J. CURTIS, JR.  
ROBERT A. DEPONT  
THOMAS J. DOUGHERTY, JR.  
JAMES G. ENNIS  
FRANK U. FLETCHER, P.C.  
ROBERT L. HEALD  
RICHARD HILDRETH, P.C.  
EDWARD W. HUMMERS, JR.  
PATRICIA A. MAHONEY  
GEORGE PETRUTSAS  
LEONARD R. RAISH, P.C.  
JAMES P. RILEY  
HARVIN ROSENBERG  
DAVID G. ROZZELLE

FLETCHER, HEALD & HILDRETH  
A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

ATTORNEYS AT LAW  
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October 7, 1983

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The Honorable Walter B. Jones  
Chairman  
Subcommittee on Coast Guard & Navigation  
House of Representatives  
Washington, D.C. 20515

Dear Chairman Jones:

Forwarded herewith for the record is the Statement of the Harris Corporation -- RF Communications Division on H.R. 3486 -- the Maritime Safety Act of 1983.

The interest of the Harris Corporation in H.R. 3486 centers on Section 3(c), addressing the matter of providing for marine satellite communications. The Harris Corporation believes it would be a mistake to limit the scope of the amendments proposed in Section 3(c) to marine satellite communications systems only. Other forms of communications, particularly High Frequency (HF), contribute substantially to effective contact with ships on the high seas and are expected to continue doing so for the indefinite future. For this and other reasons set forth in the attached Statement, Harris urges Section 3(c) of H.R. 3486 be amended so that other marine telecommunications systems in addition to satellite systems would be included in the Bill. Suggested amendments to H.R. 3486 to accomplish this are contained in an attachment to the Harris Corporation statement.

If there are any questions, or if the Harris Corporation -- RF Communications Division can be of assistance to you or to the Subcommittee Members or its Staff, please do not hesitate to ask.

Very sincerely yours,

HARRIS CORPORATION --  
RF COMMUNICATIONS DIVISION

By Leonard Robert Raish  
Leonard Robert Raish  
Its Attorney

LRR:dbh  
Enclosure

## STATEMENT

## OF THE

## HARRIS CORPORATION -- RF COMMUNICATIONS DIVISION

The Harris Corporation, through its RF Communications Division, is pleased to have this opportunity to present its views to the House Subcommittee on Coast Guard & Navigation with regard to H.R. 3486, the Maritime Safety Act of 1983. The Harris Corporation is one of the world's leading producers of high technology communications and information processing systems, equipments and components. Harris products, used in voice and video communications, data processing, data communications, and graphic communications, are manufactured at some forty plants in the United States, Canada, Mexico, and other parts of the world.

The interest of Harris in H.R. 3486 pertains to Section 3(c), which would amend the Merchant Marine Act, 1936, (46 U.S.C. 1152) to

- (1) permit the Secretary of Transportation to enter agreements with the owners of certain United States vessels of over one thousand tons to provide for not more than 50 per centum of the cost of the purchase and installation of a marine satellite telecommunications system and
- (2) authorize \$10 million dollars toward carrying out the installation of the aforementioned marine satellite systems.

While Harris lauds this recognition of the importance of telecommunications to marine safety, it is believed a mistake to limit the scope of the proposed amendments to marine satellite communications systems only. Other forms of telecommunications, particularly High Frequency (HF), contribute substantially to effective contact with ships on the high seas and are expected to continue doing so for the indefinite future.

Noting the foregoing, Harris recommends that the telecommunications provisions of H.R. 3486 not be limited to marine satellite telecommunications systems. There are three significant reasons for such a recommendation, namely, (a) terrestrial communications systems, including HF, are in place and have been relied upon for marine communications since the beginning days of radio (Attendant shore radio stations and experienced operating personnel are likewise in place), (b) the Future Global Maritime Distress and Safety System (FGMDSS) depends heavily upon a mix of terrestrial systems, and (c) while satellite communication is an unquestioned success as regards point-to-point communications, its application to the mobile services, including maritime mobile, is new, so that the reliability of satellite technology for maritime distress and safety purposes is not yet completely demonstrated.

Terrestrial radio systems, particularly HF radio systems, are and have been going through upgrading. The introduction of single side band and narrow band direct printing are examples. For the purposes of H.R. 3486, the recent adoption of Digital Selective Calling by the International Maritime Organization (IMO) for the FGMDSS represents a most significant upgrading step. It is the terrestrial systems that will be relied upon to make the FGMDSS work. Satellite systems are still not a requirement in FGMDSS. Noting this, it would seem the proposed legislation should at least not exclude the terrestrial marine telecommunications systems that will be essential to the FGMDSS.

While experience is being gained with the operation of marine satellite systems, dependence upon HF systems for marine telecommunications with ships on the high seas continues. The capabilities of these HF systems are known and the upgrading referenced above, including the introduction of Digital Selective Calling, obviously will enhance those capabilities. Digital Selective Calling is now being tested widely in the world's marine community (including the United States). It will compliment and significantly enhance (i.e., upgrade) the reliability of maritime HF communications, and because of its inclusion in the FMDSS, the technique will become a meaningful element in marine distress and safety signalling on a worldwide basis. In short, the importance of HF communications to safety on the high seas is too great to be overlooked in H.R. 3486.

Harris is concerned over the bias favoring satellite systems that appears to be created by the wording of Section 3(c). As a manufacturer, Harris is interested in both terrestrial and satellite systems. However, Harris does not feel now is the time for the Congress to endorse (or appear to endorse) one particular telecommunications system concept through the grant of financial support and not grant similar support to other systems. Ship owners, because of the Congressional support for satellite systems, could defer improvements of their terrestrial systems and thereby defer improvement in needed safety and distress communications. At the same time, misunderstanding might follow as to the U.S. intentions in this area of maritime safety communications.

financial support to maritime satellite systems in the face of U.S. commitments to participate in the FGMDS that is heavily dependent upon terrestrial systems could create doubts in the maritime community. A more even handed approach in the support of maritime telecommunications is urged.

As a final point, attention is called to National Defense communications requirements that accord equal recognition to satellite and terrestrial systems in the maritime area. In Public Law 96-387 authority was granted for the enhancement of National Defense Features with respect to merchant shipping. In connection therewith, the Secretary of the Navy determined that one of the National Defense Features was equipment to permit real time communications by U.S. flag vessels likely to be involved in national security support operations. Continuing, the equipment needed to satisfy the National Defense Features were both HF Communications systems and satellite systems. The National Defense Features program was not carried out due to lack of funding, but the point was made that terrestrial communications were an essential element, along with satellite communications. In deliberating the wording of Section 3(c) of H.R. 3486, it is urged that the Subcommittee take into account the considerations flowing from the National Defense Features provisions of Public Law 96-387.

In conclusion, Harris urges that as a matter of sound public policy, the provisions of Section 3(c) of H.R. 3486 not be limited to satellite telecommunications systems. The perceived preference for

marine satellite telecommunications reflected by Section 3(c) as now written would be contrary to the public interest in maritime safety and distress communications. Those communications are already committed heavily to terrestrial systems and will continue to be for the foreseeable future. For the foregoing reasons, Section 3(c) should be amended to broaden its scope to include terrestrial as well as satellite systems. Attached for consideration is a suggested amended text for Section 3(c) that would accomplish the above.

The Harris Corporation appreciates the opportunity for filing this statement with the Subcommittee and would be pleased to answer any questions from the members, their Staffs, or from the Staff of the Subcommittee.

Attachment



ATTACHMENT

1 (c) (1) Section 502 of the Merchant Marine Act, 1936  
2 (46 U.S.C. 1152), is amended by adding at the end of subsec-  
3 tion (i) the following new subsection:

4 "(j) To the extent provided in advance by appropriations  
5 acts, the Secretary of Transportation may enter into an  
6 agreement with the owner of a United States vessel of more  
7 than one thousand gross tons that is engaged in foreign com-  
8 merce to provide for not more than 50 per centum of the cost  
9 of the purchase and installation of a marine ~~satellite~~ telecom-  
10 munications systems".

11 (2) There are authorized to be appropriated to the Sec-  
12 retary of Transportation \$5,000,000 for the fiscal year  
13 ending September 30, 1985, and \$5,000,000 for the fiscal  
14 year ending September 30, 1986, to carry out section 502(j)  
15 of the Merchant Marine Act, 1936 (as provided in this sub-  
16 section).

N.B.: Only changes are in Lines 9 and 10.

**RCA**

September 27, 1983

Francis J DeRosa  
Executive Vice President and  
General Counsel, Law and  
Regulatory Affairs

The Honorable Walter B. Jones  
Chairman, Committee on Merchant Marine  
and Fisheries  
U.S. House of Representatives  
Washington, D.C. 20515

Dear Chairman Jones:

I am writing to you on behalf of RCA Global Communications, Inc. (RCA Globcom) concerning H.R. 3486, the Maritime Safety Act of 1983. I respectfully request that our views be included in the hearing record on H.R. 3486.

RCA Globcom is a wholly-owned subsidiary of the RCA Corporation. We have been a common carrier of international and marine communications services for more than 60 years. Today, public coast stations operated by RCA Globcom handle approximately 50% of the radiotelegraph traffic to and from the United States and ships on the high seas.

Our comments on H.R. 3486 are specifically directed to Section 3(c) of the bill, which proposes to authorize \$10 million in appropriations to subsidize the purchase and installation of INMARSAT satellite ship earth stations on U.S. flag vessels. Based on testimony submitted to the Subcommittee on Coast Guard and Navigation on August 2, 1983, it appears that there may be more than 500 vessels eligible for such a subsidy. All of these vessels are equipped with medium and high frequency radio facilities to serve their communications needs, and approximately 200 of them also already have ship earth stations.

Subsidization of equipment for use on U.S. vessels for communicating through an international satellite system, without making similar provision for upgrading shipboard radio

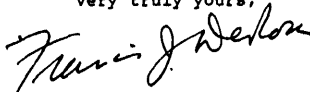
facilities, could have a negative affect on all U.S. marine coast stations and would not appear to serve the national interest. On the other hand, policies which would encourage full utilization of U.S. marine coast stations would help to assure the maintenance of high-quality, reliable service comparable to that being provided through the maritime satellite system. These policies would also strengthen the American marine communications industry which has suffered severe losses due to the international economic situation and diversion of commercial traffic from radio to satellite. Indeed, there is a danger that the increasing dependence on satellite communications could leave the marine community without adequate communications channels if the satellite system should fail, which could be particularly catastrophic in the event of an international conflict.

The U.S. maritime industry still depends on marine radio facilities to transmit information essential to the safety of life and property at sea as well as for a major portion of its commercial communications. Under the circumstances, Congress should not favor INMARSAT which competes with U.S. public coast stations in the provision of non-emergency communications services.

We further understand that the INMARSAT organization, which began operations barely 18 months ago, is already preparing to establish a second generation marine satellite system. This development is particularly significant for any subsidy program involving INMARSAT ship earth stations because vessels may have to modify their shipboard equipment substantially in order to accommodate the second generation INMARSAT system.

RCA Globecom accordingly urges that any federal program to subsidize shipboard communications facilities include marine radio facilities. Specifically, if Section 3(c) of the bill is included in the final legislation reported by the Committee, subsection (1) should be revised so that subsidies are available for "...the purchase and installation of marine radio facilities and/or a satellite telecommunications system." Such a revision would improve the bill significantly by bringing the proposed subsidy program more closely in line with the safety objectives of the legislation as well as help to assure the continuance of a healthy, viable U.S. marine radio communications industry.

Very truly yours,



cc: Committee Members

# Memorandum

U.S. Department  
of Transportation  
**United States  
Coast Guard**



Subject: Subcommittee Hearing Questions on Marine Safety      Date: 15 SEP 1983  
5730

From: Chief, Office of Merchant Marine Safety      Reply to: G-MP-2/24: 6-1483  
Attn of: CDR DeWITT

To: Chief, Congressional Affairs Staff

Ref: (a) Memorandum from Cher Brooks, Bill Woodward to Ted Leland dated  
29 August 1983

1. Enclosed are responses to Subcommittee questions as requested by  
reference (a).

*Clyde T. Lusk, Jr.*  
CLYDE T. LUSK, Jr.

Encl: (1) Responses to questions on Marine Safety  
*Chief, Office of Merchant Marine Safety*

# QUESTIONS OF THE SUBCOMMITTEE AND ANSWERS BY THE COAST GUARD

## Coast Guard Search and Rescue Response

### Question 1:

Section 3 of H. R. 3486 requires vessel owners to contact the Coast Guard whenever the master of vessel has failed to contact the owner during the preceding 48 hour period. Could you please outline the types of actions, and the sequence of actions, which the Coast Guard could be expected to take in response to receiving word from a vessel owner that one of his vessels has failed to report on time?

### Answer 1:

When notified by a vessel owner that one of his vessels has failed to report on time, there are three possible emergency phases which can be applied to the incident; (1) Uncertainty phase, (2) Alert phase, and (3) Distress phase. The uncertainty phase is assigned anytime doubt exists as to the safety of the vessel because of lack of information concerning progress or position of the vessel. The key word is doubt. The Alert phase is assigned anytime apprehension exists for the safety of the vessel because of definite information that serious difficulty exists, but not distress, or because of continued lack of information concerning progress or position of the vessel. The key word is apprehension. The Distress phase is assigned anytime immediate assistance is required by a vessel because of the threat of grave and imminent danger, or because of the continued lack of information concerning progress or position of the vessel. The key words are grave danger and immediate assistance.

When the Coast Guard receives a report from an owner that one of his vessels has failed to report on time, it will most likely be categorized as an Uncertainty, and all pertinent data will be recorded and evaluated to determine the urgency and validity of the situation. Primary search and rescue (SAR) facilities may be alerted as the situation dictates. A preliminary communication search (PRECOM) is initiated which consists of contacting and checking major facilities within the areas where the vessel might be or might have been seen. If the PRECOM is unproductive, the Uncertainty phase normally progresses to the Alert phase.

During an Alert phase, all available information is evaluated and an extended communication search (EXCOM) is initiated which consists of contacting all possible sources of information on the missing vessel including physically checking possible locations. Upon completion of the EXCOM check, the vessel may be declared "missing" and the incident would progress to the Distress phase.

During the Distress phase, the type and number of search and rescue units to be used is determined. Their crews are briefed and they are dispatched. Secondary SAR facilities, rescue teams, other personnel, and assisting agencies are alerted. The SAR mission is planned and carried out until the vessel is found or all leads to the probability of locating the vessel have been pursued.

## Question 2:

Do you think there is a realistic chance that section 3's notification requirement to the Coast Guard will change traditional case law which relieves the Coast Guard of liability for not initiating a search?

## Answer 2:

Section 3's notification requirement should not change traditional case law regarding Coast Guard liability for not initiating a search. There is nothing in Section 3 that requires the Coast Guard to act. Past courts have rejected attempts to impose such a duty merely on the fact of notification of an incident. A statutory requirement for notification should not change this. In search and rescue cases the Coast Guard is generally held to the standard of a "good samaritan", and has no affirmative duty to initiate or undertake a search. Only where the Coast Guard misleads people into believing that it will commence search efforts and thereby discourages private efforts to undertake a search can liability normally be established. To insure that the extent of the Coast-Guard's liability is not altered by Section 3 of the bill it is most desirable to include in the legislative history, language which will emphasize our traditional posture and preserve existing case law on this point.

## Inspections

### Question 1:

Freight carrying vessels are required to undergo a drydock inspection every two years. Under what circumstances may this requirement be waived? What procedures are followed by the Coast Guard in considering whether or not to agree to an owner's request to delay a drydock inspection? Is the age of the vessel involved considered to be a factor? Is the reason for the requested delay taken into account? How frequently are requests for a delay turned down? Is there a limit to the length of time for which a delay in a drydock inspection may be granted? Is there a list that names the vessels which have been granted extensions?

### Answer 1:

There are various requirements for the drydocking of cargo vessels (See Table below). Under U.S. regulations the drydocking interval for oceangoing vessels is two years. Both the Coast Guard and classification societies have provisions for extending drydock intervals for individual vessels; there is no provision for waiving the requirement altogether. However, the Coast Guard has an experimental program to evaluate the feasibility of accepting an underwater survey in lieu of alternate required drydockings.

In addition to regulatory and classification requirements there are International standards that require drydocking of vessels. SOLAS 74/78 (Safety of Life at Sea Convention), to which the U. S. is signatory, divides vessels into two categories: passenger ships and cargo ships. SOLAS requires that the outside of the ships bottom be examined at intervals of 12 months for passenger ships, at intervals of 5 years for tankers, and at intervals of 30 months for tankers of ten years of age and over. There is no provision for an extension of the interval of 12 months for passenger ships or 5 years for tankers.

The International Convention on Loadlines (1966) requires the complete inspection of a vessel's structure at 5 year intervals (classification societies and the Coast Guard interpret this to mean drydocking). There is a provision for extending the interval up to a maximum of 150 days.

When considering the possible extension of the drydock interval for a vessel, the status of the vessel with respect to international requirements has to be determined. No extension is granted if it would place the vessel in violation of international requirements. Detailed guidelines concerning drydock extensions have been issued to our inspection offices. These guidelines require a visit to the vessel in all but the most unusual situations, as a prerequisite to the issuance of an extension. The guidelines also require a written statement from the master or chief engineer stating that in his opinion the vessel is suitable for operation during the extension

period. A thorough review of the vessel's history is also required. Extensions of the drydock interval are normally handled at the OCMI level. The age of the vessel and the reason for the requested extension are two of the items which are considered before deciding whether to grant the extension. The documentation on each request is contained in the individual vessel file at the local level. No statistical record is kept of these requests.

Decisions are made on a case by case basis after careful consideration of all of the relevant information available from vessel records and observation. Some requests are approved for less time than is requested and some are denied. Extensions for more than six months require approval above the OCMI level. Coast Guard District Commanders are authorized to approve extensions for up to one year. The Commandant is authorized to grant extensions of more than one year.

#### DRY DOCKING REQUIREMENTS COMPARISON

<u>Vessel Type</u>	<u>U.S. Requirement</u>	<u>Int'l Requirement</u>	<u>ABS Class Requirement</u>
Passenger	12 months	12 months	30 months
Tank	24 months	5 years#	30 months
Cargo	24 months	5 years#	30 months

# The five year interval for drydocking for tank vessels is contained in the 1978 Solas protocol. Tank vessels which are considered a subset of cargo vessels by the protocol are required to be drydocked at 30 month intervals when they are ten years or older. The International Load Line Convention requires a mandatory five year drydocking for all vessels which obtain a loadline. Cargo vessels that are not tank vessels do not have a required interval for dry docking by the SOLAS Convention.

#### Representative Foreign Governments

	<u>Passenger</u>	<u>Classed VsIs</u>	<u>Unclassed VsIs</u>	<u>Extensions</u>
USA	12 mo	24 mo	24 mo	Individual req
Canada	12 mo	48 mo	48 mo	None published
U.K	Solas and Class requirements for all types			
France	12 mo	24 mo	24 mo	None published
Japan	12 mo	24 mo	24 mo	6 mo



## Question 2:

Where, specifically, does the Coast Guard derive its authority to grant extensions for vessels requiring Coast Guard inspections? Also, where in the CFR is the procedure for granting extensions?

## Answer 2:

The Coast Guard does not have authority to grant extensions to the interval between inspections for certification and does not grant such. 46 USC 3307 establishes the frequency of inspection for various types of vessels. Regulations implementing these statutory requirements are contained in Title 46, Code of Federal Regulations. This title specifies the maximum intervals allowed between inspections for the various types of inspected vessels. Although extensions of the intervals between inspections for certification are not authorized, the Commandant may authorize extensions of the intervals between drydockings. This authority is contained in the various subchapters of Title 46, CFR.

## Question 3:

46 U.S.C. 234 requires licensed merchant marine officers to assist the Coast Guard in the inspection of their vessels. Does the Coast Guard have any sort of policy which would encourage inspectors to also meet with crew members in order to allow them to assist in identifying possible vessel deficiencies? Is this policy in writing in any manuals?

## Answer 3:

The Marine Safety Manual provides instructions concerning deficiencies reported by crew members. As a matter of routine, during the course of an inspection, the inspector is in close contact with a number of the crew members, both licensed and unlicensed, and the opportunity for the exchange of vessel information is present. In addition, crew complaints of vessel condition are investigated in all instances.

## Question 4:

It has been stated that the 12 Coast Guard District Commanders have significant autonomy in interpreting and carrying out policy directives issued from Coast Guard Headquarters. Could this type of decentralization serve to reduce the overall effectiveness of the Vessel Inspection Program, since different Marine Safety Offices may tend to apply standards and require compliance in varying degrees?

## Answer 4:

The process of inspecting vessels is very complex and requires the use of good judgement based on experience. The regulations in many areas are written to be flexible and require the Officer in Charge Marine Inspection (OCMI) to exercise judgement in their application. The Coast Guard issues policy guidance for the OCMI's to use in the administration of these inspection laws and regulations. The primary devices utilized for establishing such guidance are the Marine Safety Manual and Navigation and Vessel Inspection Circulars (NVIC's). The manual is constantly being updated. Areas where additional guidance is needed are identified and addressed. NVIC's are issued when needed to respond to new technologies or significant changes in the marine industry. Both are available to the private sector. The Coast Guard system is sound and does insure a high degree of uniformity in application of inspection laws and regulations. The enforcement program is supplemented by ample administrative appeal processes designed to promote both safety and fundamental fairness to the regulated parties.

T-2 Tanker Conversions

## Question 1:

Following the loss of the MARINE SULPHUR QUEEN in 1963, the Coast Guard Marine Board of Investigation recommended that "no other conversion of this type vessel should be approved which deviates from the originally designed features for the carriage of normal petroleum products."

At the Subcommittee's hearing on July 19th, there was a brief colloquy between Representative Hughes and Admiral Lusk on this subject, but the outcome of this discussion was not entirely clear.

What, precisely, is the Coast Guard's policy with respect to approving conversions to T-2 tank vessels? Has this policy, since 1963, been in conformance with the Marine Board recommendation quoted above?

## Answer 1:

Policy with respect to T-2 tanker conversions has not been in conformance with the Marine Board's recommendation as quoted above, but has been consistent with the policy set forth in the Commandant's Action in the MARINE SULPHUR QUEEN case. At that time, the Commandant concurred with the Marine Board's recommendation that the conversion of another T-2 tanker similar to that of the MARINE SULPHUR QUEEN should not be approved. The Commandant did not concur with the recommendation of the Board that no other conversion should be approved for this type vessel which deviates from the originally designed features for the carriage of normal petroleum products. The use of an existing T-2 tanker bow and stern, if in satisfactory condition and properly joined to a suitable new cargo midbody, is considered acceptable. The conversion of the MARINE SULPHUR QUEEN involved only the internal structure of the midbody. The shell plating of the vessel was left intact. One continuous cargo tank was installed and divided into four cargo tanks with three transverse bulkheads. Subsequent T-2 tanker conversions such as the MARINE FLORIDIAN, MARINE TEXAN, and MARINE DUVAL have involved the joining of existing bow and stern sections to suitable new cargo midbodies consistent with Commandant's policy.

## Question 2:

Marine Transport Lines owns four T-2 type vessels which were converted to carry dry bulk cargo subsequent to 1963. These are the MARINE TEXAN (converted in 1964), the MARINE FLORIDIAN (1967), the MARINE DUVAL (1970) and the MARINE PRINCESS (1982). Would these conversions have been approved if the Coast Guard had adopted the Marine Board recommendation quoted above?

## Answer 2:

If the Coast Guard had adopted the recommendation it is unlikely that these conversions would have been approved. It should be noted that these conversions are distinguishable from that of the MARINE SULPHUR QUEEN, which involved only the internal structure of the midbody. The shell plating of the vessel was left intact. One continuous cargo tank was installed. This tank was divided into four cargo tanks by the installation of three transverse bulkheads.

The conversions of the MARINE FLORIDIAN, MARINE TEXAN, and MARINE DUVAL from petroleum carriers to molten sulphur carriers were significantly different than the conversion of the MARINE SULPHUR QUEEN. The existing stern sections of the three vessels were joined to entirely new midbody and bow sections. The new midbodies each contained five independent tanks compared to the one independent tank of the MARINE SULPHUR QUEEN. The conversions of the MARINE FLORIDIAN, MARINE TEXAN, and MARINE DUVAL adhered to the policy stated in the Commandant's Action of 17 March 1964 and mentioned in the first paragraph.

The MARINE PRINCESS which was never a petroleum carrier, was built in 1967 at Doxford Shipbuilders in the United Kingdom and has apparently not undergone any conversions.

Lifeboats

## Question 1:

Approximately how many U.S. merchant ships presently use sheath-screw type davits for launching lifeboats?

## Answer 1:

We do not have an exact count of how many ships have sheath-screw davits. However, a rough estimate would be that about 10% of U.S. oceangoing vessels have sheath-screw type davits or some other type of mechanical davits. For the most part these davits are found on the following groups of vessels:

- . Most Great Lakes vessels
- . Some ferries
- . WWII Tankers
- . Some WWII cargo vessels
- . Some harbor tugs
- . Some ocean going barges

These would total about 100, mostly older vessels. Most newer vessels have been equipped with gravity davits whether required by regulation or not.

## Question 2:

What categories of vessels and what age of vessels are still permitted, by regulation, to use sheath-screw type davits?

## Answer 2:

Vessels built after 1 September 1941 with lifeboats weighing 5,000 lb. or less when fully loaded with all equipment (but without people), may have sheath-screw davits or other types of mechanical davits. One exception is tankers built after 26 May 1965 of 1,600 gross tons and over on international voyages, which are required to have gravity davits. Most vessels built after WWII have gravity davits installed in lieu of some type of mechanical davit.

To implement the new Chapter III of the Safety of Life at Sea Convention, we will propose regulations that would require new vessels to have davits which are arranged to allow the lifeboat to be boarded and launched directly from the stowed position. This will eliminate the operation of moving the boat from a stowage position to a launching position, and will therefore automatically eliminate mechanical davits from newly constructed vessels.

## Question 3:

Does the Coast Guard believe that gravity davits are generally safer and more effective than sheath-screw type davits?

## Answer 3:

The Coast Guard believes gravity davits are generally safer and more effective than sheath-screw davits because the former allows a lifeboat to roll down or swing out to its launching position with a minimum of exertion and effort on the part of a ship's crew. Sheath-screw and other designs of mechanical davits suffer the delay of being cranked out by hand before the lifeboat reaches its launching position.

## Question 4:

In general terms, how expensive would it be for a merchant vessel which now uses sheath-screw type davits to install gravity davits instead?

## Answer 4:

We estimate the cost at \$35,000 to \$55,000 per davit set depending upon whether or not the existing sheath-screw davit has a winch that can be used with the gravity davits. Since most vessels have two sets of davits, the average cost per vessel would be on the order of \$90,000.

## Question 5:

Should sheath-screw type davits be prohibited on any newly constructed vessel required to have lifeboats; and, should Congress require retrofitting on those vessels which do not have gravity davits?

## Answer 5:

As part of our regulation revision work to implement the new Chapter III of the Safety of Life at Sea Convention, we intend to propose regulations that would require new vessels to have davits which are arranged to allow the lifeboat to be boarded and launched directly from the stowed position. This will eliminate the operation of moving the boat from a stowage position to a launch position, and will therefore automatically eliminate mechanical davits from newly constructed vessels.

The Coast Guard does not believe that prohibition of sheath-screw davits or retrofitting gravity davits is necessary. We have typically not required the retrofit of new systems on older ships unless it is clear that the old systems are grossly inadequate. With respect to sheath-screw davits, these can be effectively used if they are properly maintained and operated by a skilled crew, even though they will not be quite as fast and easy to use. We have seen no compelling reason to require replacement of all sheath-screw davits on these older vessels.

EPIRBs

## Question 1:

How expensive is an EPIRB?

## Answer 1:

An EPIRB costs \$400 to \$500.

## Question 2:

What problems, if any, have developed in the use of EPIRBs over the past several years? Is there reason to believe that possession of a single EPIRB may not be sufficient to guarantee that a distress signal will be emitted from a vessel which has sunk or broken up?

## Answer 2:

We believe there is a problem in that some vessels stow the EPIRB in the wheelhouse or radio room rather than outside in its float-free mounting. This is frequently done in port to prevent the EPIRB from being stolen and when the vessel leaves port, the master or radio officer may forget to put the EPIRB back in the bracket. We know that this occurred on the CHESTER A. POLING, and it is one of several possible explanations as to why no EPIRB signal was heard subsequent to the loss of that vessel. Finally, since the EPIRB is a battery-powered device, there is always the possibility that the battery may fail. We have had occasional inspection reports indicating a dead battery.

Multiple EPIRBs would provide some protection for battery failures. As part of our regulation revision work to implement the new Chapter III of the Safety of Life at Sea Convention, we intend to propose regulations which would require that an EPIRB be carried on each side of the vessel, stowed so that it can be readily placed in any survival craft (lifeboat or liferaft). These two EPIRBs would be in addition to the float-free EPIRB already on the vessel.

## Question 3:

What communications equipment is required on lifeboats? Would it be superfluous to require that lifeboats carry an EPIRB?

## Answer 3:

Each vessel on an international voyage is required to carry a portable lifeboat radio. This radio is carried to the lifeboat by the radio officer if the ship must be abandoned. It is powered by a hand-cranked generator and operates on the marine distress frequencies. Newer radios also have self-contained batteries for power.

We believe that EPIRBs would be useful on lifeboats, and as explained previously under Major Effects of New SOLAS Chapter III, our new regulation proposals will include an EPIRB on each side of the vessel stowed so that it can be readily placed in any survival craft (lifeboat or liferaft). Also, two-way radios would be required to be carried for communication between the vessel and its lifeboats and liferafts.

## Question 4:

One of the new SOLAS requirements refers to EPIRBs. The Coast Guard is working on a regulation which will essentially require that two EPIRBs will be placed on either side of a vessel, and will be in addition to the currently required float-free EPIRB. What stage is this regulation in, and how quickly does the Coast Guard intend to implement this SOLAS provision?

## Answer 4:

We intend to implement all of the new SOLAS provisions over the next three years, including those for EPIRBs. In the case of the EPIRB, we will begin work with the FCC to develop the appropriate technical specifications for the unit. When these are ready, the FCC and Coast Guard will jointly publish proposed regulations for approval of the EPIRB. The requirements for vessels to carry these EPIRBs will probably be proposed as part of a complete revision of the lifesaving equipment requirements for vessels. Our goal is to have all of these regulations published as final rules before the July 1, 1986 effective date for the SOLAS revisions.

## Question 5:

There is apparently a problem with EPIRBs currently in use in that they tend to frequently send false alarms distress signals. Is there a problem with this, and if so, what can be done to correct it?

## Answer 5:

We do not consider the present level of false alarm signals received from EPIRBs as indicative of a major problem, although we would like to reduce the present 50% false alarm rate. Most of the problems seem to be with manually operated EPIRBs carried voluntarily on yachts and uninspected commercial vessels. Apparently, the units are accidentally switched on, and no one is aware that the unit is transmitting. The only indication that the unit is operating is a small light. One possible solution would be to require the unit to include an audible alarm when the unit is transmitting. We have been reluctant to require such an alarm because it adds cost and complexity to the unit, and requires power that would otherwise be used by the transmitter.

In cooperation with NASA and the Air Force, we have begun a public information program to try to reduce the false alarm rate for EPIRBs and aircraft ELTs (Emergency Locating Transmitters). We have held a press conference and provided information to the media, and we are getting good media coverage.

## Question 6:

When is the SARSAT system now expected to become operational, and is this system tied into the SOLAS EPIRB provision which is to become effective in July, 1986?

## Answer 6:

Since SARSAT is an experimental program, it may never really become "operational." It will achieve its ultimate capability in 1984 when the last of the SARSAT/COSPAS satellites is placed in orbit. The purpose of the SARSAT experiment is to determine what technology is best for a satellite search and rescue system. It is designed to operate with the present EPIRBs, as well as an experimental 406 MHz EPIRB. The new revision to SOLAS Chapter III does not require a float-free EPIRB similar to that required on U.S. vessels. The International Maritime Organization is now considering a complete revision of SOLAS Chapter IV which will provide for the Future Global Maritime Distress and Safety System (FGMDSS). This will include satellite EPIRBs and the requirements will be based in part on the information gathered under the SARSAT project. In the interim, the International Maritime Organization's Thirteenth Assembly is going to consider a resolution to recommend carriage of the more traditional EPIRBs until such time as the FGMDSS becomes a reality.

SARSAT is a joint international experiment that is in a demonstration and evaluation phase (D & E) through 1984. Parts of the ground and space segment are still being put into place and being refined. By late 1984, all the basic components of the system should be in place. Tentative plans are for a transition phase from the end of D & E to about 1990 at which time a fully established operational system is conceivable. Spacecraft carrying the SARSAT package have been programmed through at least 1990. The system has assisted in saving over seventy lives in less than one year.

## Question 7:

Can the SARSAT system be used in conjunction with the types of EPIRB already in use, or will a new design be required?

## Answer 7:

The experimental SARSAT system is used in conjunction with the current class A and B EPIRBs (121.5 and 243.0 MHz frequency) and has already been used in a number of rescues. It is expected that a new EPIRB will be required to operate effectively with the permanent search and rescue system that will be part of the Future Global Maritime Distress and Safety System (FGMDSS).

Marine Communications

## Question 1:

What position is the Coast Guard taking with regard to the International Maritime Organizations's Future Global Maritime Distress and Safety System, especially with respect to the following considerations?

## Answer 1:

The Coast Guard has strongly supported the FGMDSS both in the IMO and at the 1983 World Administrative Radio Conference where enabling provisions for the introduction of the FGMDSS were incorporated in the International Radio Regulations.

## Question 1a:

The specific equipment complement being considered for vessels 300 gross tons and over and 1600 gross tons and over.

## Answer 1a.:

The IMO is developing carriage requirements which are the same for all vessels over 300 gross tons. It is our position that minimum requirements for small ships between 300 and 1600 gross tons operating exclusively within range of shore based VHF-stations and within range of shore based MF-stations should be permitted to be different than requirements for large ships over 1600 gross tons.

Attached is a list of the IMO requirements for all vessels and the U. S. recommendation for vessels between 300-1600 gross tons. Basically, we are recommending the deletion of the following requirements for smaller vessels operating close to shore.

1. Satellite EPIRB
2. NAVTEX receiver
3. VHF direction finder



## FUTURE GLOBAL MARITIME DISTRESS and SAFETY SYSTEM (FGMDSS)

FGMDSS Draft Carriage Requirements for Vessels 300 Gross Tons and over and 1600 Gross Tons and over.

IMO Radiocommunication Subcommittee Recommendation (from COM 25/WP.8) for vessels 300 gross tons and over (same for 1600 tons and over):

## Area A1 (VHF coverage area, typically 20 nmi offshore):

Two VHF radios (one must have voice, DSC and NBDP capability)  
VHF EPIRB  
Navtex receiver  
VHF direction finder  
(VHF radio in survival craft)

## Area A1 &amp; A2 (MF coverage area, typically 60 - 200 nmi offshore):

VHF radio (must have voice and NBDP capability)  
MF radio (must have voice, DSC and NBDP capability)  
INMARSAT and(or) polar orbiting satellite EPIRB  
Navtex receiver  
VHF direction finder  
(VHF radio in survival craft)

## Area A1, A2 and A3 (within INMARSAT coverage area - all but polar):

VHF radio (must have NBDP and voice capability)  
MF radio (must have voice, DSC and NBDP capability)  
INMARSAT terminal or HF radio (with DSC, NBDP and voice capability)  
INMARSAT and(or) polar orbiting satellite EPIRB  
Navtex receiver  
VHF direction finder  
(VHF radio in survival craft)

## Area A1, A2, A3, and A4 (global):

VHF radio (must have NBDP and voice capability)  
MF radio (must have DSC, NBDP and voice capability)  
HF radio (must have voice, DSC and NBDP capability)  
Polar orbiting satellite and INMARSAT EPIRB  
Navtex receiver  
VHF direction finder  
(VHF radio in survival craft)

U. S. Recommendation to IMO (from COM 26/3/1 - not yet adopted):  
same as IMO, except for vessels 300 - 1600 gross tons:

A1 Area: Two VHF radios (one maybe portable, one must have DSC and voice capability)  
VHF or polar orbiting satellite EPIRB

A1 and A2 Area: VHF radio (must have voice and DSC capability)  
Navtex receiver  
VHF direction finder  
Polar satellite EPIRB  
MF radio  
VHF radio

## Question 1b.:

b. Can the FGMDSS be fully operational by 1990? Can present satellite equipment replace currently required marine communications equipment and perform the distress function as effectively as the current radio equipment? What is the most acceptable procedure for setting up a transition period, which will keep currently required marine communications equipment aboard vessels until the FGMDSS equipment is installed, functional and deemed to be effective for its intended purposes?

## Answer 1b.:

It can be fully operational by 1990 only if a number of complex and difficult pieces to this puzzle fall in place. This doesn't mean that the existing system will be completely replaced by 1990. There are too many unknowns in this equation to decide one way or another at this time. The 1990 date was established at the IMO. There is a transition plan under development to bring this about and introduce the various elements into the FGMDSS. The Coast Guard has supported this optimistic transition plan. It depends on the successful achievement of a number of significant actions, some of which are still in an early developmental stage. We have been supporting the 1990 date, however, and the Coast Guard is doing all we can to help meet it. Some of the things we are doing: (1) We are leading the U. S. FGMDSS effort in the IMO. (2) We will be in the forefront of the preparations of U. S. positions for the 1987 Mobile World Administrative Radio Conference when these begin. (3) We're actively participating in the Digital Selective Calling (DSC) trials and EPIRB tests. Until the transition plan is achieved - be it earlier or later - and until all elements of the FGMDSS are proven and reliable, the Coast Guard will maintain the current distress system to assure continuity of safety during the transition period.

At this time, present satellite equipment probably can not effectively replace current radio equipment. Satellite communications are reliable, rapid, and have nearly global coverage, but there are some limitations in its use between the distressed ship and rescue vessel. The present distress system depends upon ship to ship alerting and assistance. Distress communications between a ship having current radio equipment and a ship having satellite equipment would have to be provided through shore facilities having satellite communications. The FGMDSS calls for a global network of "Rescue Coordinating Centers (RCC)" to perform this function. These are not in place yet. Hence, the present system would be weakened. Use of present satellite equipment (eg. VHF and MF voice and digital communications) as proposed by IMO for the FGMDSS ultimately will allow the replacement of currently required radio equipment.

The only acceptable procedure is to introduce the various elements of the FGMDS so that they will complement the existing distress and safety system. From a regulatory standpoint, the current system in the International Radio Regulations will remain the primary distress and safety system until replaced by the FGMDS at some future date. FGMDS procedures and equipments will have to be tested and evaluated to be sure they provide the planned safety capabilities. We must achieve a satisfactory level of technical and operational experience with all the new elements before complete and specific regulatory provisions for the FGMDS can be provided in the Radio Regulations. The IMO has under development a transition plan which provides a framework to accomplish most of these steps in time for the 1987 World Administrative Radio Conference. As different parts of the FGMDS are proven reliable and generally available, it may be possible to effect certain trade-offs with the current system. I prefer not to speculate on examples at this time because it is much too early in the state of FGMDS capability to do so. It is certain that the Coast Guard will have to be concerned with the concurrent operation of some or all elements of both the current system and the FGMDS. This duplication will prove costly; however, we are aware of the problem. It provides us with the incentive to help perfect the FGMDS for the earliest possible acceptance and operation.

Question 1c.:

There seems to be a problem with false alarms being emitted from Inmarsat systems now in use. Is this a serious problem, and what is being done about it by the IMO?

Answer 1c.:

There was a problem with false alarms being emitted by Inmarsat systems. During the last half of last year, false alarms averaged 24 per month. January of this year they peaked at 26, but since then the number has steadily decreased. In June there were only seven false alarms. It appears that most of the false alarms were due to either operator error or equipment malfunction. Inmarsat undertook two actions to reduce these problems. The first was to send a notice to masters of vessels describing and addressing the seriousness of the problem. The second was to identify those terminals that were transmitting a false alarm on malfunction, and require a retrofit to correct the problem. Both actions have largely been completed, and, I believe, have been successful. I do not believe false alarms can now be considered a serious problem. Since action to resolve the problem was taken by Inmarsat, there was minimal IMO activity in this matter.

Question 2:

The IMO recently approved a new Chapter III on Lifesaving for the Safety of Life at Sea Convention. Please provide a list of the major provisions agreed to by SOLAS participants. As the new Chapter III provisions are to become effective in July of 1986, has the Coast Guard initiated the regulatory process in order to implement any of the new SOLAS requirements in the United States. (Other than the EPIRB regulations now being worked on)

Answer 2:

I have provided a list of the major changes that will be brought about by the revision to SOLAS Chapter III. Our plans are that the new SOLAS requirements will be proposed as an integral part of a complete revision of the lifesaving equipment requirements for vessels. Our goal is to have all of these regulations published as final rules before the July 1, 1986 effective date for the SOLAS revisions.

## MAJOR EFFECTS OF NEW SOLAS CHAPTER III

NEW SHIPS (Begun on or after 1 July 1986)

## Emergency Position Indicating Radio Beacons (EPIRBs)

- Two EPIRBs (one on each side of the vessel) will be required, stowed in a manner so that they can be readily placed in any lifeboat or liferaft. (These EPIRBs are in addition to the float-free vessel EPIRB already required on U.S. vessels.)  
Note: The float-free vessel EPIRB will eventually be replaced by a satellite EPIRB when the Future Global Maritime Distress and Safety System (FGMDSS) becomes operational.

## Two-way radiotelephone apparatus

- Ships will be required to carry at least 3 "walkie-talkies" to provide for communication between the vessel and its lifeboats and liferafts.

## Exposure suits (referred to as immersion suits in SOLAS)

- Suits will be required for the crew of the boat designated conduct man-overboard rescues (rescue boat).

## Lifeboats

- Increased hypothermia protection is required in lifeboats. Lifeboats on most cargo vessels must be totally enclosed and self-righting in both the dry and flooded conditions. Lifeboats on passenger vessels must be partially enclosed, with rigid covers over bow and stern and a quickly deployable flexible cover in between.
- Lifeboats on vessels carrying toxic cargoes must have a self-contained air supply system for the engine and crew.
- Lifeboats on vessels carrying flammable cargoes must have a self-contained air supply system for the engine and crew, and an external sprinkler system to permit the boat to proceed through fire on the water.
- Lifeboats are required to have a release mechanism that unlocks when the boat enters the water, but that can also be released before the boat is waterborne by activating a protected safety lock.
- All lifeboats must be motor lifeboats.

## Liferafts

- In addition to the lifeboats on either side of a cargo vessel, float-free liferafts must be provided for 100% of the persons on board rather than the present 50%.
- Liferafts must be provided with a boarding platform at one entrance to facilitate boarding from the sea.
- Liferafts may be substituted for lifeboats on small vessels (passenger vessels under 500 tons and 200 passengers, cargo vessels less than 85 m (279 ft.) in length, however, a rescue boat for man-overboard rescues must also be provided.

### Launching capability

- Lifeboat and liferaft launching gear will be required to operate at a 20° list rather than the current 15° list.
- Ships such as tankers, chemical carriers, and gas carriers will have to have launching gear that operates at greater angles of list on the low side, if the vessel has a final angle of heel greater than 20° in the damaged condition.
- Launching devices must be arranged so that they can be operated from within the lifeboat or liferaft, so that no one is required to remain aboard the vessel.
- Launching devices on cargo vessels must be arranged so that they are boarded and launched from their stowed position rather than some intermediate position, in order to simplify launching procedure.
- Free-fall lifeboat launching is permitted in lieu of davit-launching.

### Training and maintenance

- Formal training for the crew in the use of the lifesaving systems will be required on board the vessel in addition to the traditional fire and boat drills.
- Proper maintenance of lifesaving equipment is specifically required.

### EXISTING SHIPS (Begun before 1 July 1986, requirements to apply 1 July 1991)

#### Emergency Position Indicating Radio Beacons (EPIRBs)

- Two EPIRBs (one on each side of the vessel) will be required, stowed in a manner so that they can be readily placed in any lifeboat or liferaft. (These EPIRBs are in addition to the float-free vessel EPIRB already required on U.S. vessels.)  
Note: The float-free vessel EPIRB will eventually be replaced by a satellite EPIRB when the Future Global Maritime Distress and Safety System (FGMDSS) becomes operational.

#### Two-way radiotelephone apparatus

- Ships will be required to carry at least 3 "walkie-talkies" to provide for communication between the vessel and its lifeboats and liferafts.

#### Liferafts

- In addition to the lifeboats on either side of a cargo vessel, float-free liferafts must be provided for 100% of the persons on board rather than the present 50%.

#### Exposure suits (referred to as immersion suits in SOLAS)

- Three suits will be required for the crew of each open lifeboat with "thermal protective aids" (similar to "space blankets") provided for everyone else aboard the vessel.
- If the Administration considers it necessary, exposure suits may be required for each person on board.

## Question 3:

Considering commercial deep-draft vessels, outfitted with only the currently required communications equipment, is it common for ship to shore communications to be temporarily inoperative? Can you outline the primary reasons for a vessel at sea not being able to make a transmission?

## Answer 3:

The required equipment now is medium frequency (MF) telegraphy and VHF radiotelephony, which are limited greatly in range. Thus, if a vessel had only MF, it would be unable to communicate with shore stations when far at sea, say 500 miles or more from the coast. For this reason, most ships carry high frequency (HF) radios voluntarily, which enables them to communicate over long distances. Taken together, the equipment is relatively robust and reliable. We do not have statistics on failure rates, (which may be available from the Federal Communications Commission), but we think that is not the problem. Rather, it rests with the nature of HF/MF and VHF propagation, which means that conditions in the ionosphere often prevent the establishment of a solid path for communications. Additionally, with only a single radio operator aboard, the vessel normally maintains communication for just 8 hours a day. Therefore, it is difficult to communicate with the ship during the other 16 hours, even if it involves a serious concern but short of a maritime distress. In summary, communications problems are not due to an inability to make a transmission or to inoperative equipment, but are a function of the propagation limitations and watchstanding system in effect.

Safety of Passenger Ferries

## Question 1:

In the National Transportation Safety Board's report on the collision of the Norwegian cargo vessel M/V HOEGH ORCHID and New York ferry AMERICAN LEGION, upper New York Bay, May 6, 1981, it made the recommendation that the Coast Guard "revoke the deviation from the equipment requirements of the Navigation Safety Regulations . . . that permits the Staten Island ferries to operate without a gyrocompass and . . . require installation of this equipment".

The NTSB report on the collision of the Washington state ferry M/V KLAHOWYA and Liberian freighter SANKO GRAIN, Seattle harbor, Washington, January 13, 1981, included a similar recommendation.

What was the Coast Guard's response to these recommendations?

## Answer 1:

In the case of the M/V HOEGH ORCHID and New York ferry AMERICAN LEGION, the NTSB recommendation was to revoke the deviation from the equipment requirements of the Navigation Safety Regulations, 33 CFR 164.35, granted to the City of New York that permits the Staten Island ferries to operate without a gyrocompass and an illuminated gyrocompass repeater, and to require installation of this equipment.

The Coast Guard does not concur with this recommendation. These ferries are normally navigated by piloting, using navigation aids and landmarks as points of reference. When necessary, radar and a magnetic steering compass are available. Their route is only about 5 miles in length. It is through an area which provides "hard" easily identifiable radar return. In restricted visibility, a properly utilized radar and a magnetic steering compass should be adequate for safe navigation in the limited area in which the ferries operate.

In the case of the Washington state ferry M/V KLAHOWYA and Liberian freighter SANKO GRAIN, the Coast Guard concurs with the recommendation. It should be noted that, while the two recommendations are concerned with similar issues, they specify different approaches on the part of the Coast Guard. The first recommendation is to revoke the deviation from the equipment requirements of the Navigation Safety Regulations granted to the City of New York. The second recommendation was to reconsider regulation deviations issued to the Washington State Ferries and other ferry operators. We did not concur with revocation of the deviations issued to the Staten Island ferries. We did reconsider those deviations issued to the Washington State Ferries and found that these deviations were appropriate, considering the limited scope of operation.

Subsequent to the subject casualty, the Coast Guard reviewed the manner in which the Navigation Safety Regulations have been applied to the Washington State Ferries. Two determinations were made. First, had the KLAHOWYA been equipped with the navigation gear normally required on vessels of 1,600 gross tons or more, it would not have compensated for the poor judgment of the master. Second, the regulation deviations granted other Washington State Ferries are presently appropriate, considering the limited scope of the operation.

**Question 2:**

An additional recommendation made in the report on the accident involving the AMERICAN LEGION was that the Coast Guard "evaluate the curricula of the approved radar schools to determine if the courses offered include training and testing in radar navigation as used by operators of ferries and other harbor craft, who do not normally plot radar contacts, and require those applicants seeking an endorsement as radar observer (restricted to inland waters), both original and renewal, to demonstrate this type of radar proficiency before such endorsement is issued".

What was the Coast Guard's response to this recommendation?

**Answer 2:**

The Coast Guard concurs with this recommendation. Radar course outlines, curricula, and related materials have and shall continue to be submitted for joint USCG/MARAD approval or reapproval. The Radar Observer rules published in the Federal Register on September 16, 1982 (Radar Observer Endorsement - Demonstration of Skills), which became effective on November 15, 1982, listed the curriculum required by the Coast Guard of any school seeking radar observer course approval. This curriculum was reevaluated in October 1982 and no increased emphasis on rapid radar plotting was considered necessary for Radar Observer [Inland Waters] endorsement. In fact, as a result of this evaluation a change to the approved [Inland Waters] curriculum is proposed in the new 46 CFR Part 10. This change eliminates rapid radar plotting and stresses, interpretation and analysis of radar information with emphasis on the unique problems associated with inland waters. This proposed curriculum change provides realistic training for inland radar users.



## Question 3:

33 CFR 75.10-20 requires lifeboats on passenger ferries. Under this regulation, ferries must be equipped with lifeboat capacity sufficient only for a small fraction of the passengers on board.

Would the Coast Guard support a requirement that ferries operating in cold water be equipped with liferafts or floats for all the passengers on board? What problems does the Coast Guard foresee with regard to this requirement in terms of storage of the rafts or floats, expense, or capability of the crew to launch the rafts or floats in an emergency?

## Answer 3:

The lifeboats on passenger ferries are intended primarily as rescue boats to pick up persons who accidentally fall overboard. In the case of a casualty, ferries are required to be compartmented to provide some protection from capsizing and sinking in the event of a casualty. If that is not enough and the passengers must abandon the vessel, life preservers are provided for everyone on board. Since ferries, by definition, operate over a short, direct route, rescuers should be available in a short period of time. Nevertheless, we recognize that in cold water, rescuers may still be too late for some people.

Existing life floats and liferafts are not an entirely satisfactory way to provide additional lifesaving equipment on ferries. To accommodate all persons on board a ferry that can carry 2000 people, approximately 80 life floats or inflatable liferafts of 25 persons capacity would be required. Life floats do not keep the survivors totally out of the water, so the hypothermia risk is still significant. Each is approximately 9 ft. long, 5 ft. wide, and 1 ft. high, and they can be stowed four high. This would mean a stowage area of at least 900 sq. ft. of open deck would be required. The cost for 80 life floats would be approximately \$65,000. Inflatable liferafts would keep survivors out of the water and can be stowed more compactly, however, they have canopies with entrances large enough for only one person. Boarding the rafts in a timely and orderly manner would be very difficult. This is one of the reasons that a lifeboatman is required for each raft. A ferry with 80 rafts would therefore have to have at least 80 crewmen. The initial cost for 80 inflatable liferafts would be approximately \$320,000, with an annual servicing cost of about \$32,000.

We believe there may be a better answer, and have recently agreed in principle with a proposal by the Washington State Ferries to provide a new type of inflatable buoyant apparatus on some of their vessels. The apparatus is designed to keep survivors out of the water, has no canopy, and has a large capacity. We will be working closely with the manufacturer of the apparatus and the ferry system to evaluate the device. Since it is inflatable, it also can be packed into a container that should not take up a prohibitive amount of room on the vessel. Once this system is installed on a vessel, we will be able to evaluate the expense, stowage problems, and crew capability. Our support for a requirement for such a system will depend upon our evaluation of this first installation.

## Question 4:

Does the Coast Guard have emergency rescue plans to respond to passenger ferry accidents? If so, are the plans tailored to specific bodies of water, or specific ferry routes?

## Answer 4:

The Coast Guard has emergency rescue plans to respond to all types of marine casualties including passenger ferry accidents. Each Coast Guard District has search and rescue plans which are tailored for the types of marine casualties that are peculiar to their areas of operation, including rescue plans for cold water environments. All marine accidents are handled in accordance with general Coast Guard procedures, and all resources needed to meet the emergency are available to the rescue coordinator.

## Question 5:

Can you supply the Subcommittee with statistics on the number of deaths and injuries related to passenger ferry operations from 1970 to the present?

## Answer 5:

<u>Year</u>	<u>Deaths</u>	<u>Injuries</u>
1981	8	6
1980	7	14
1979	5	17
1978	4	14
1977	15	5
1976	0	27
1975	1	4
1974	2	32
1973	16	20
1972	1	15
1971	32	13
1970	31	24

Statistics for the years 1982 and 1983 are not available at this time.

Safety of Divers in OCS oil drilling and production operations

## Question 1:

How many deaths or serious injuries involving divers have occurred on the Outer Continental Shelf of the United States since 1978? How many of these deaths or injuries have been investigated by the Coast Guard?

## Answer 1:

The following table shows the Coast Guard's casualty investigation statistics under the Commercial Diving Operations Regulations.

	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>TOTAL</u>
Deaths (Investigated)	2	3	3	NA	NA	8
Injuries (Investigated)	2	1	2	NA	NA	5
TOTAL (Investigated)	4	4	5	NA	NA	

## Question 2:

What responsibility does the Coast Guard have for regulating the safety of OCS diving practices? What actions have been taken in the exercise of this responsibility?

## Answer 2:

Under the authority of the Outer Continental Shelf Lands Act, as amended in 1978, the Coast Guard has been tasked with matters related to workplace safety (43 USC 1331, et al). This includes commercial diving activities related to the recovery of natural resources from the OCS. Following extensive public rulemaking activity that included public hearings, the Coast Guard has responded by promulgating Commercial Diving Operations Regulations in Title 46, Code of Federal Regulations, Part 197. These became effective 1 February 1979. Since that time, the Coast Guard has continuously worked to refine our inspection and enforcement policies. We maintain open communication with commercial divers and their industry, domestic and foreign government regulatory agencies and other interested groups. In addition Coast Guard marine inspection personnel are regularly trained in this specialized area.

## Question 3:

Does the Coast Guard inspect offshore diving equipment such as diving bells and decompression chambers? Is Coast Guard safety certification required for this type of equipment?

## Answer 3:

The Coast Guard has adopted the American Society of Mechanical Engineers code for pressure vessels for human occupancy (ASME PVHO-1) in our regulations as the standard to which diving bells and decompression chambers are to be built. In-service inspections are accomplished by either Coast Guard Marine Inspectors when they are aboard platforms or vessels, or by the designated industry Diving Supervisor as regulations permit. In utilizing this inspection policy, the Coast Guard recognizes the wide geographic distribution of diving systems within our jurisdiction and also acknowledges the professional experience, training and attitude of Diving Supervisors. The standards for these inspections are specified in the regulations and they are the same regardless of who conducts the exam.

The Coast Guard has no safety certificates for diving equipment. Diving bells and chambers are marked and stamped in accordance with the ASME PVHO-1 Code which is the accepted standard set forth in our regulations.

Offshore Oil Rigs

## Question 1:

In his testimony, July 27, 1983, Virgil Stone, representing the International Association of Drilling Contractors, expressed concern about the navigation of merchant vessels in the vicinity of offshore rigs. He indicated that there have been numerous instances of merchant vessels, evidently with no one on the bridge, bearing down on rigs and only narrowly missing these stationary structures. Has the Coast Guard received any reports of such occurrences and what is the appropriate reporting mechanism? Do these facilities have safety zones in which navigation is prohibited for merchant vessels? What regulations would govern this type of unsafe navigation? Does the Coast Guard have authority over foreign flag vessels navigating on the U.S. OCS in an unsafe manner in the immediate vicinity of an offshore oil rig?

## Answer 1:

Although, statistics concerning "near misses" between vessels and oil rigs are not collected, inquiries made recently of Coast Guard officers in oil industry areas indicates that very few such incidents occur. 33 CFR 147 provides for establishment of a 500 meter safety zone about an OCS facility by the Coast Guard District Commander who concludes that a safety hazard exists or can be reasonably foreseen. In making the determination, the congestion of vessels, the presence of unusually harmful or hazardous substances, and any obstructions within 500 meters of the facility are considered. Any person may request the Coast Guard to establish a safety zone.

46 USC 2302 provides penalties for the negligent operation of a U. S. flag or foreign vessel in waters subject to U. S. jurisdiction and for U. S. flag vessels on the high seas. However, there is no general statutory authority over negligently operated foreign-flag vessels beyond the territorial waters of the United States.

U.S. Department  
of Transportation  
**United States  
Coast Guard**



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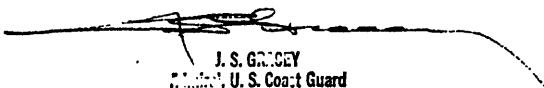
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Honorable Walter B. Jones  
Chairman, Subcommittee on Coast Guard  
and Navigation  
House of Representatives  
Washington, D.C. 20515

Dear Mr. Jones:

In response to your letter of 7 October 1983, I have enclosed answers to the additional questions posed by members of the Subcommittee for inclusion in the record of your series of hearings on marine safety.

Sincerely,

  
J. S. GRACEY  
Commandant, U. S. Coast Guard  
Commandant

Encl: (1) Questions and Answers

QUESTIONS SUBMITTED BY MR. JONES

1. (a) How many officers are there in the Coast Guard?

ANSWER: 5,244 Commissioned Officers; 1,458 Warrant Officers

(b) How many Coast Guard officers have been qualified as marine inspectors?

ANSWER: Of the above Commissioned and Warrant Officers, 950 are qualified as marine inspectors

(c) How many Admirals are there in the Coast Guard?

ANSWER: 28

(d) How many of the Admirals have, at some point in their careers, been qualified as marine inspectors?

ANSWER: 4

(e) There is a perception that the Coast Guard's marine safety program suffers because talented young officers are convinced that marine safety and commercial vessel inspection expertise is not adequately rewarded within the Coast Guard's promotion system. Does there exist an attitude that a young officer needs to escape the marine safety program if he or she is to be considered seriously for a top job in the Coast Guard? Do you have any statistical way of demonstrating that such an attitude is or is not justified?

ANSWER:

We are not aware of concerns regarding the need to escape by junior officers in the merchant marine safety field. Analysis of promotion data indicates that officers in the merchant marine safety field are advanced in percentages approximately equal to that of the overall officer population. The following statistical data is provided for your consideration.

Total (1980 - 1983)

	Number Officer Eligible	Number Officer Selected	Percentage Promotion	"M" Officers Eligible	"M" Officers Selected	Per- centage	
CAPT	253	181	71.5	53	38	71.6	+.1
CDR	490	395	80.6	110	88	80.0	-.6
LCDR	788	632	80.2	203	162	79.8	-.4

2. The Coast Guard has no legal authority to grant extensions to the interval between inspections for certification, as spelled out in 46 USC 3307.

Vessels are specifically prohibited from operating without "having on board a valid certificate of inspection." (46 USC 3309)

On the other hand, the Coast Guard has issued a regulation (Subpart 91.05 of Title 46, Chapter 1 CFR) which permits "the Officer in Charge, Marine Inspection . . . (to) . . . issue a permit to proceed to another port for repair . . . if in his judgement it can be done with safety, even if the certificate of inspection of the vessel has expired or is about to expire."

--What is the legal authority for this regulation?

--If a vessel operator has been granted a "permit to proceed" under this regulation, will that operator still be considered to be in violation of 46 USC 3309, for operating a vessel without a valid certificate of inspection?

--Under what circumstances are the "permits to proceed" granted? How frequently are they granted?

ANSWER:

Permits to proceed are issued under the authority of 46 U.S.C. 3313. That section allows the Secretary to permit "any repairs to be made at a place most convenient to the owner, charterer or managing operator when the Secretary decides the repairs can be made with safety to those on board the vessel." The permit to proceed specifies the conditions under which a vessel may proceed to another port for repairs. It will specify what cargo, if any, may be carried and any route restrictions or other operational limitations. As such, it is considered a substitute for a Certificate of Inspection, and the vessel will not be considered in violation of 46 U.S.C. 3309 as long as the conditions of the permit are complied with.

For example, a permit to proceed may be issued when repairs are needed that require drydocking, and the vessel is not in a location with drydocking facilities. In such an instance, the vessel may not be considered sufficiently in compliance with the regulations to hold a Certification of Inspection. The vessel owner or operator would typically request that a permit to proceed be issued to his vessel. An inspection would be conducted to determine if the voyage could be made safely under conditions specified by the cognizant Coast Guard Officer in Charge, Marine Inspection (OCMI).

A permit to proceed may also be issued to a vessel whose Certificate of Inspection has expired or is about to expire. Such a permit is issued to allow the vessel to continue to a port to complete discharge of cargo and complete the Inspection for Certification. An inspection for certification must be started and continued to the extent necessary to insure that the vessel can make the voyage safely. Instructions to the OCMI on the issuance of permits to proceed are quite specific and are contained in published policy.

The Coast Guard issues approximately 240 permits to proceed annually. The vast majority of those are issued to vessels (mostly barges) which sustain hull damage at a port or place that does not have drydocking or repair facilities that can make repairs.

3. What action, if any, has the Coast Guard taken with respect to the following recommendations made in the oversight report of the Merchant Marine and Fisheries Committee concerning the disappearance of the POET:

(a) The Marine Safety Manual and the Drydock Examination Books used by the Coast Guard and the American Bureau of Shipping should be revised to make the internal examination of double bottoms and ballast tanks an inspection requirement which may not be waived.

**ANSWER:**

The Coast Guard concurred in part with this recommendation. The Marine Safety Manual section on "Hull Inspections" has been amended to state that "all protected and unprotected salt water ballast tanks shall be inspected at least every four years. Appropriate entries shall be made on the Vessel Inspection Record regarding which tanks have been examined." This policy includes double bottom ballast tanks. Corrosion inside double bottom bunker tanks is negligible. Therefore, internal examination of these tanks is only necessary when a problem is noted during an external examination. In view of this specific change to the Marine Safety Manual and the requirement for recording the inspections on the Vessel Inspection Record, revisions to the Drydock Examination Book are not considered necessary. The American Bureau of Shipping (ABS) does not utilize the Marine Safety Manual or Drydock Examination Books for their routine surveys. ABS has, however, been advised of the contents of the recommendation regarding double bottom and ballast tank inspections.



(b) The Coast Guard should formulate regulations requiring more frequent inspections of older vessels?

ANSWER:

The Coast Guard concurred with the intent of this recommendation. We recognize in the Marine Safety Manual, that the "determination of the true condition of a vessel and her equipment is sometimes difficult, particularly when the vessel has aged." However, a vessel is issued a Certificate of Inspection based on inspections which determine that the vessel, regardless of age, is fit for the service for which it is intended for the period of validity of the COI.

The Coast Guard has initiated a program to examine older vessels, 20 years of age and older, with senior grade experienced personnel from Headquarters. These personnel will visit the vessels when they are being drydocked or are undergoing an inspection for certification. This is an independent examination from that performed by our field offices.

Although the examination program for older vessels is not complete, results from the 21 vessels examined thus far indicate that older vessels are being maintained in satisfactory condition. The condition of the older vessels is fairly representative of the U. S. merchant fleet in general. In addition, Headquarters staff is also conducting a review of the detailed reports of inspections of these vessels completed by field offices. This program should do much to establish the overall condition of vessels over 20 years old. The management of the inspection activities can be tailored to meet the findings.

In view of the above and the attention we give to problems associated with a particular class of vessels, the Coast Guard does not feel that regulatory changes requiring more frequent inspections of all older vessels are necessary at this time. We will continue to evaluate inspection policies through review of inspection records and, in particular, review of casualty reports. This continuous evaluation will be greatly facilitated by the proximate implementation of the Marine Safety Information System.

(c) The Coast Guard should improve guidance as to the type of repairs which can be deferred, as well as the issuance of waivers for violations.

ANSWER:

The Coast Guard does not issue or authorize "waivers for violations." There are provisions for waivers of vessel inspection laws and regulations in Title 46, Code of Federal Regulations, Part 6. However, these waivers are only granted when specifically requested by DOD "in the interest of national defense".

With regard to deferral of repairs, the Marine Safety Manual section, entitled "Inspection Deficiencies," already provides detailed guidance. Basically, repairs or deficiencies are deferred ("permitted to remain outstanding") only if "they will not materially affect the safety of the vessel during the time permitted to remain uncorrected." The Officer in Charge, Marine Inspection specifically states the conditions of the deferral including the time allowed for completion when he advises the owner by letter of outstanding requirements. Furthermore, the owner is "required to inform the Coast Guard when the deficiency has been corrected." We will continue to emphasize this area in our inspection training program.

(d) The Coast Guard should formulate written procedures for its oversight of inspection functions delegated to the ABS and other classification societies.

ANSWER:

The Coast Guard concurred with this recommendation. We are drafting written instructions for field components concerning oversight of ABS activities performed on behalf of the Coast Guard. Only limited inspection functions are delegated to "other" classification societies and appropriate guidance is provided on a case-by-case basis. Guidance to classification societies concerning the survey and subsequent issuance of load lines to vessels in U.S. waters whose flag State is not signatory to the International Convention on Load Lines were published on 21 December 1982.

4. How would you compare the scope and stringency of U.S. regulations governing the safety of OCS commercial diving activities, and those which are in effect in oil-producing areas of the North Sea?

ANSWER:

Overall, the commercial diving safety regulations in effect in the North Sea are somewhat broader in scope and more detailed in specificity than the Coast Guard's. That area's working environment is dramatically more severe than that found in most of our OCS waters, and this is properly reflected in a comparison of regulations. Weather that is almost continuously inclement; high winds, strong currents, and very cold and deep waters collectively account for the necessary differences that do exist.

As an example of how the severe North Sea conditions have dictated the necessity of differences between our rules, their operational experience has resulted in the recent development of sophisticated special purpose dynamically-positioned diving support vessels to deal with the harsh conditions found there. On the other hand, there was no expressed interest in using such craft on our OCS due to the comparatively better environmental conditions and shallower depths on our OCS that allow safe diving from fixed or anchored platforms or even liveboating (diving from a vessel that is underway but barely making way).

The United Kingdom, Norway and the Netherlands, among others, drafted their rules following an alarming number of fatal diving accidents offshore during the early development of their oilfields in the 1960s and 1970s. It is noteworthy that following a significant reduction in the number of commercial diving fatalities in the North Sea's British sector in recent years, the United Kingdom's rules have been rewritten to place less emphasis on specificity and more on flexibility by using a series of Diving Safety Memoranda as guidance to their commercial diving industry. While this type of regulatory method is allowed by the rulemaking structure of British law, it also points to the improved safety of commercial diving operations. This same trend in increased safety awareness has been noted in commercial diving conducted in our OCS waters.

5. Coast Guard regulations governing OCS diving practices are contained in Title 46, CFR Part 197. Those regulations appear to place great importance upon the role of the "diving supervisor" designated by the person-in-charge of the diving operation. What qualifications are "diving supervisors" required to have?

ANSWER:

The Diving Supervisor is designated in writing by the diving contractor. He is in charge of and has complete responsibility for the safety of the commercial diving operation including the safety and health of all diving personnel. The Person-in-Charge referred to in our regulations is the individual designated in writing by the owner or agent of the vessel or facility as having overall responsibility for that vessel or facility. For example, the master of a vessel from which a commercial diving operation is being conducted would be the "person-in-charge" as stipulated in our rules.

The Coast Guard has no specific qualifications for Diving Supervisors. When our final rules were published in the Federal Register on 16 November 1978, it was "noted that the commercial diving industry, subject to the jurisdiction of the Coast Guard, has established a school to train commercial divers; has physicians trained and experienced in hyperbaric medicine either employed full time or on-call by individual companies and the commercial diving school; has developed and vigorously follows an on-the-job training program encompassing all facets of commercial diving activities; and has established safety and health programs within most individual companies."

Since that time, the number of commercial diving schools has increased to presently number about fourteen, most of whom are members of the Association of Commercial Diving Educators and/or the Association of International Diving Schools. Both associations state among their goals the continued striving for improvement in the level of preparedness of their graduates for their entry into the industry. Hyperbaric medicine has likewise continued to move ahead, in particular through research by the U.S. Navy and Duke University concerning human tolerances in deep diving experiments. Similarly, diving companies in general have placed more formal recognition on diving safety with the appointment of diving safety directors and personnel as well as improved manuals covering all aspects of the diving activities. The constant review of our regulations since 1978 continues to indicate that there is no clear need to create more regulations in this area. This review takes into account the lack of any input received from any source that establishes such a need, as well as the general safety performance of the industry during this period. We remain keenly interested in this topic and intend to continue to monitor the situation.

6. In the Coast Guard's Marine Casualty Report on the S.S. POET, it was recommended that there is a need for a National Maritime Safety Radiocommunication Plan. Such a plan would focus on improving radio distress and locating systems, identifying national objectives and determining the possibilities for improving marine radio communications toward the state of the art. What action has the Coast Guard taken in this area?

ANSWER:

The Coast Guard has been active in the development of the Future Global Maritime Distress Safety System (FGMDSS). The intent and purpose of the National Maritime Safety Radiocommunications Plan is embodied in the FGMDSS. The future system is designed to improve all aspects of distress and safety by introducing the latest radiocommunication technology in the system. Some examples are:

- Satellite radiocommunication
- Satellite EPIRB's
- Digital Selective Calling for automated distress Alerting
- Automated reception of navigational messages

7. The Coast Guard provides the primary delegates to the IMO's Maritime Safety Committee which has been working on equipment requirements for the proposed Future Global Maritime Distress and Safety System for several years. Assuming that near universal participation will be required in order for this distress system to be effective, what plans have the Coast Guard made to outfit their own vessels with FGMDSS equipment?

ANSWER:

Coast Guard cutters voluntarily comply with the same existing radio requirements currently imposed on commercial vessels. We plan to act no differently with the Future Global Maritime Distress and Safety System. Although this system is still being defined, we are in the first stages of studying how to outfit our cutters and coast stations with the necessary equipment.

8. Currently, there are a number of oceangoing vessels which are not required to report to USMER, such as drilling rigs being navigated to drilling sites, research and seismographic vessels. As some of these types of vessels may be operating in hostile and remote areas, has the Coast Guard investigated the possibility of requiring them to report to the mandatory AMVER system?

ANSWER

Since the merger of USMER/AMVER on 1 August 1983, the Coast Guard and MARAD have been pursuing the possibility of including these types of vessels in a mandatory scheme. It is emphasized that these vessels can voluntarily report to the AMVER system today if they wish to do so. The Coast Guard has investigated this possibility and determined that the present system can accommodate such a requirement.

9. The Coast Guard's final report on the OCEAN RANGER casualty is being completed. I understand that this report will include recommendations for regulatory initiatives pertaining to the offshore industry. One such recommendation concerns Coast Guard licensing of MODU personnel. Can you give us an idea of what the Coast Guard is planning in this area?

ANSWER:

Within the large regulatory project which revises the Coast Guard's licensing regulations, there is a section which deals with licenses for personnel serving on mobile offshore units. A Mobile offshore unit is defined in that context, to include MODUs, construction barges, pipelay barges, drill tenders, etc.

The Notice of Proposed Rulemaking (NPRM) was published in the Federal Register of 8 August 1983 and has a public comment period of 120 days. It contains sections which deal with the application, experience and physical exam requirements and lists the topics to be included in a professional examination. Under the proposal licenses will be issued for service on MODUs as master, mate, chief engineer and assistant engineer. They will authorize service on self-propelled or non-self-propelled units while under tow or at the exploration/exploitation site. The licenses are designed to enable personnel serving in this industry and most familiar with its characteristics to qualify for a license without being examined in unnecessary or inappropriate skills.

(a) I also understand that the final report will not be making recommendations for regulatory initiatives with regard to improved life-saving equipment training or procedural requirements. Is this correct?

ANSWER:

The Marine Board has made several recommendations to promote the improvement of present methods, or development of alternative methods, of abandoning MODUs by lifeboats and inflatable liferafts and for rescuing personnel. One involves a perceived need for information which should be specified in the MODU's evacuation plans to facilitate timely and safe evacuation of personnel. Another suggests the development of rescue techniques that require less active participation by the person in the water.

(b) Also, currently, standby vessels are not required to be assigned to U.S. -flag MODUs, yet are required in some other countries. Is the Coast Guard analyzing the possibility of requiring standby vessels?

ANSWER:

The Coast Guard is analyzing the possibility of requiring standby vessels in certain locations under certain weather conditions. For example, MODUs operating in the Gulf of Mexico in fair weather season would, in all likelihood, require a different treatment than an isolated MODU in the North Sea in winter. We are evaluating different alternatives to insure any requirements instituted will serve the interests of safety without over regulation.

10. Inasmuch as the Coast Guard is the agency which has primary responsibility for marine inspections, and since you have established a relatively extensive network of inspection offices, it would appear reasonable that the Coast Guard could take over or assist in the marine radiocommunication inspection duties currently delegated to the Federal Communications Commission. What would be your reaction to this general proposal?

ANSWER:

The Coast Guard does not presently have the equipment or personnel in its marine safety program to conduct these inspections. We do have personnel trained in electronic and radio communication equipment. However, they are needed to maintain and develop equipment for Coast Guard vessels, shore radio stations, search and rescue units and radio aids to navigation. To use these people for merchant vessel inspection purposes would cause shortages in other vital areas.

To prepare marine safety inspectors to conduct these inspections would require additional training. This training would be required not only of those coming into the program but also of inspectors already in the field. No study has been made to determine how much training would be needed, how long it would take, where it could be obtained, or what additional resources would be needed.

There are some areas where the Coast Guard could conduct inspections carried out by the Federal Communications Commission (FCC) with little training. One area is the testing of emergency position indicating radio beacons (EPIRBs). This small contribution may not make a significant enough impact on the present F.C.C. workload to warrant such a delegation.

11. Would the Coast Guard be willing to work on a MOU with the FCC to share inspection responsibilities of radio equipment on vessels?

ANSWER: We are certainly willing to work with the FCC but, for the reasons mentioned in the answer to question number 10, development of an MOU seems premature.

12. What can the Coast Guard do to improve entry qualifications for seamen's documents?

ANSWER:

Prior to 6 Oct 1980, 46 USC 672(g) was interpreted by the Coast Guard as prohibiting any qualification requirements being imposed on entry rate seamen. We are considering in a rulemaking project currently in the early stages of development to promulgate standards for entry in the merchant marine. Most likely to be considered will be pre-sea training requirements to ensure the individual is able to protect and assist him or herself in the event of an all hands emergency.

The entry system into the merchant marine presently requires no experience; therefore, the physical and training qualification aspects are the areas to improve. This was attempted by NAVIC 3-83 with the support of the SHIP (Seafarers Health Improvement Plan) committee. The major shipping owners have indicated support in implementing the voluntary entry physical standards set forth in that document.



13. A recent item in the Federal Register dated Thursday, August 18, 1983 (49 Fed. Reg. 37441) gave notice of the Coast Guard's proposal to replace current Coast Guard requirements for plan approval and shop inspection of boilers with requirements that they be inspected and stamped in accordance with the American Society of Mechanical Engineer's ("ASME") Boiler and Pressure Vessel Code, replacing the judgment of a Coast Guard officer with that of a registered professional engineer.

(a) In this connection, are the professional engineers performing work under the ASME Code required to be marine specialists? How many Coast Guard Officers are professional engineers.

ANSWER:

The professional engineers that will certify a boiler manufacturer's plans as meeting the requirements of our regulations and the ASME Code are not required to be marine specialists. However, they are expected to adhere to the Code of Ethics for Professional Engineers which they agree to abide by at time of licensing. A fundamental principle within this agreement demands that the professional engineer undertake only those assignments for which he is qualified by education or experience. Further, the certified boiler plans are required to be submitted to the Coast Guard for review to insure that they comply with our regulations and the boiler will be inspected at time of installation for conformance with Coast Guard requirements. The majority of marine propulsion boilers installed on U. S. flag vessels are manufactured by three major companies which have been manufacturing boilers for over fifty years and are very familiar with Coast Guard requirements. The proposed rules apply to only new construction and to the boiler proper, not to the steam piping. The installation of the boiler and the steam piping are subject to inspection and approval by a Coast Guard marine inspector.

Military and civilian personnel working for the Coast Guard are not required to be licensed professional engineers. It is estimated that 10% of Coast Guard technical personnel performing plan reviews and less than 1% of Coast Guard marine inspectors are licensed professional engineers.

(b) Are any Coast Guard officers working now as professional engineers during off-duty hours?

ANSWER:

While the Coast Guard does not permit its employees to be employed by outside sources who may contract with, be regulated by, or are affected by Coast Guard activities, we at the same time encourage our professional engineers, whether or not formally licensed, to participate in a variety of alternative, typically gratuitous, off-duty professional activities.

An overwhelming majority of our people are motivated toward active participation in these voluntary activities, and their collective efforts benefit not only the individual, but more importantly the public and the Coast Guard. The activities range from support of professional societies and presentation of technical papers to community service in their area of expertise, each activity having the same positive effect:

- it enhances the capabilities of the individual,
- it enhances the image of the Coast Guard, and
- it provides a useful service to the community.

A typical listing of activities our people are engaged in would include the following:

- membership in and contributions to national and local organizations, such as the Society of Naval Architects and Marine Engineers (SNAME), the American Institute of Chemical Engineers (AIChE), and the Society of Fire Protection Engineers (SFPE).
- teaching professional courses at educational institutions.
- publication and presentation of technical papers and articles.
- reserve duty in the Coast Guard or other armed forces (civilian staff).
- attending symposia, lecture series, and panel discussions related to engineering disciplines.
- enrollment in educational degree programs.
- participation in community safety programs.
- qualification for professional certification programs, such as industrial hygiene, industrial toxicology, law, and business.
- consulting with local government leaders and community members on safety issues.

In summary, our professional engineers are prohibited from reviewing, designing, or inspecting boilers for any organization other than the Coast Guard. In contrast, their "spare time" may be spent preparing and presenting a paper on Coast Guard boiler requirements for the Chesapeake Section of SNAME or serving as a volunteer fireman in Fairfax County.

(c) What sort of training do ASME inspectors receive? Does the Coast Guard have any control over ASME Code, its inspectors, or the professional engineers?

ANSWER:

An ASME authorized inspector must:

- Have a Bachelor of Science degree in either Marine or Mechanical Engineering and one year experience with high pressure boilers, or
- Have three years of experience with high pressure vessels and boilers.

In addition, each inspector must successfully pass an intensive twelve hour exam. This exam consists of mathematical and essay questions which test the inspector's knowledge of the ASME Code requirements. Upon successful completion of the exam, the inspector is commissioned by the National Board of Boiler and Pressure Vessel Inspectors and is subject to their bylaws.

An authorized inspector can only perform his duties while regularly employed by a State or Municipality of the United States, a Canadian Province, or by an insurance company authorized to write boiler and pressure vessel insurance. The inspectors are continually trained to increase their knowledge of inspection methods and manufacturing processes. Also, they are backed by a staff of technical experts who help them resolve any questions or disputes. Further, their work is continuously monitored by their employers, manufacturers, ASME, and the National Board of Boiler and Pressure Vessel Inspectors. If a commissioned inspector fails to carry out his duties, he and his supervisor are subject to disciplinary action. This action may include permanent revocation of the inspector's commission.

The Coast Guard participates in the development of the ASME Code through membership on its many committees as follows:

- Board on Pressure Technology Codes and Standards
- Marine Conference Committee
- Main Committee
- Subcommittee on Boiler and Pressure Vessel Accreditation
- Subcommittee on Power Boilers
  - Subgroup on General Requirements
  - Subgroup on Design
  - Subgroup on Piping
- Subcommittee on Heating Boilers
  - Subgroup on Care and Operation
- Subcommittee on Pressure Vessels
  - Subgroup on Materials
- Subcommittee on Welding
  - Subgroup on Qualifications

Coast Guard representatives have full voting rights on the committees and use persuasive arguments and negative votes to defeat any proposed items which are contrary to Coast Guard goals. Proposed changes to the ASME Code go through four independent levels of review before they are approved. The Coast Guard has representatives at each of these levels. One negative vote at the Main Committee or Board level will send an item back for further work. On second consideration, three negative votes by members of the Main Committee or by one-third of the Board members will defeat the item. Further, any changes to the ASME Code are published for public review for a six month period before they are put into effect. At this time any member of the marine community may raise objection to any change proposed. A negative public comment receives great attention by ASME and will cause an item to be sent back to the committee for consideration. Through this active participation at each level of standards development, aggressive pursuit of the clearance process, and coordination among the various representatives, the Coast Guard is able to exercise significant and effective control over the Code.

The Coast Guard does not exercise any direct control over ASME inspectors. However, all boilers must be inspected and approved by a Coast Guard inspector at the time of installation on the vessel. This inspection is one means used by the Coast Guard to monitor the overall performance of the ASME inspector. Other means include working with the inspectors, manufacturers and users on the ASME Code committees, and reviewing documentation of the inspector's work. Also, as stated above, the inspector's work is continuously monitored by his employer, manufacturers, ASME, and the National Board of Boiler and Pressure Vessel Inspectors.

The Coast Guard does not exercise any direct control over the professional engineers. However, the plans certified by the professional engineer are required to be submitted for oversight review by the Coast Guard. The plans would be reviewed to assure that they comply with Coast Guard requirements that are in addition to the ASME Code. Our experience to date has not shown a need to take action against a professional engineer. However, there are several avenues which the Coast Guard can pursue should the need for such action arise, including:

- Returning the boiler plans to the professional engineer for revision,
- cautioning the professional engineer in instances where significant deficiencies are found,
- notifying the manufacturer in cases of consistent poor performance by the professional engineer, or
- formally filing a complaint with the appropriate State licensing board.

(d) Will the Coast Guard proposal curtail the review process?

ANSWER:

The proposed rulemaking does not curtail the review process. The proposed rules eliminate manpower-intensive Coast Guard jobs while maintaining an equivalent level of safety by taking advantage of the talents, training, and experience of ASME inspectors and licensed professional engineers. Time-consuming plan review and travel to site processes cost a significant amount of money for both the government and manufacturers. ASME inspectors are highly trained and experienced people who inspect boilers and pressure vessels almost every day of their career. They are usually closer to the manufacturer's shop. Close proximity to the manufacturer provides for a more efficient shop inspection service, thereby reducing production delays and costs. The Coast Guard maintains overall control by reviewing the certified plans, inspecting the boiler at the time of installation, and actively participating on ASME Code committees.

RE: Reflagging of Foreign Vessels

1. How many foreign vessels have been reflagged since NVC 10-81 was issued?

ANSWER:

4 vessels have been reflagged from foreign to U.S. since NVC 10-81 was issued and 2 wrecked foreign vessels were registered under the provisions of 46 U.S.C. 14 utilizing NVC 10-81 for certification.

2. Where were the foreign vessels which have been reflagged pursuant to the procedures in NVC 10-81 originally flagged?

ANSWER:

The vessels were originally flagged in Greece, Panama, and Sweden.

3. What were the safety specifications and inspection procedures in each of those countries? How do those specifications and procedures compare with those of the U.S. Coast Guard?

ANSWER:

The Coast Guard does not have details of the safety specifications or inspection procedures utilized by the foreign countries mentioned in the previous answer. However, all of those countries are signatory to SOLAS 74 (International Convention for the Safety of Life at Sea, 1974) and the 1978 Protocol to SOLAS 74. Vessels registered in those countries should therefore be in compliance with SOLAS requirements when they are reflagged. However, there are some areas where SOLAS requirements are not presently as stringent as U.S. regulatory requirements. The major area of difference is structural fire protection in the crew accommodation areas. When the first set of amendments to SOLAS 74 comes into force on 1 September 1984, the structural fire protection standards for new vessels will be the same as those presently required for U.S. vessels.

In many areas, considerable interpretation by the flag state is permitted by SOLAS. When a vessel is reflagged under NVC 10-81, we do not necessarily accept all the interpretations or variances of the former flag state. Some areas where we do not necessarily accept these interpretations involve requirements for automation, bilge piping systems, and the size of fire main piping.

4. How many vessels reflagged pursuant to NVC 10-81 have gravity davits?

ANSWER:

All 6 vessels.

5. What inspection procedure, if any, does the Coast Guard undertake to ensure that lifesaving equipment is in "serviceable condition" as required in NVC 10-81?

ANSWER:

Lifeboats, davits, winches, pilot ladders and pilot hoists on vessels inspected under NVC 10-81 may be accepted by the Coast Guard provided they have been approved by a national Administration signatory to SOLAS and are in good and serviceable condition. The determination of "good and serviceable" is made by the cognizant Coast Guard Officer in Charge, Marine Inspection (OCMI) based on a thorough inspection of the particular lifesaving equipment. Guidance for the inspection of lifesaving equipment is found in Chapter 31 of the Marine Safety Manual and in Navigation and Vessel Inspection Circulars 2-63, 5-77, 2-80 and 6-81. In addition, the required tests and specifications for lifeboats and davits are as set forth in the regulations for passenger vessels, tank vessels, etc.

6. Does the Coast Guard note the age of lifesaving equipment on board vessels it reflags for the purpose of recommending or requiring a replacement date?

ANSWER:

Lifesaving equipment is not condemned or replaced because of its age. Coast Guard marine inspectors conduct thorough inspections of lifesaving and other equipment regardless of age. Lifesaving equipment can continue in service as long as it is maintained in good and serviceable condition.

QUESTIONS SUBMITTED BY MR. STUDDS

1. As you know, one of the major purposes of H.R. 3486 is to increase civil penalties for violations of marine safety laws and regulations.

According to the statistics I have seen, the Coast Guard is not particularly aggressive in assessing fines under the penalty system which we now have in place. I understand that the Coast Guard has the ability to lift the inspection certificate of a vessel -- which can be a strong penalty in itself -- but I am curious in general about the usefulness of the penalty system we will hopefully be strengthening through this bill.

-- How do you view the civil penalty system in the area of marine safety?

ANSWER:

I view the civil penalty system as one of several important enforcement tools utilized by the Coast Guard to promote marine safety, by ensuring compliance with applicable law and regulation.

--Do you see it as a deterrent, or simply as a back-up in cases where the principle deterrent -- lifting of the inspection certificate -- is not enough?

ANSWER:

Each tool is a deterrent, and the use of different tools, or combination of them, may be appropriate in different situations to achieve the desired level of safety. Generally speaking, the removal of a vessel's certificate of inspection results from a serious, uncorrected, unsafe condition. If a detected safety violation is corrected promptly, removal of the certificate is inappropriate and unnecessary. Citation for a civil penalty may result from a violation of law or regulation which may or may not have been corrected. Such a citation generally involves the operation of the vessel, and, depending on the circumstances, may be employed in conjunction with other tools, such as removal of the certificate and/or suspension and revocation action against the licensed merchant mariner involved. Corrective action to ensure vessel safety is the desired result; the circumstances at hand determine what are the appropriate tools to be employed.

--Is the Coast Guard reluctant to impose penalties because of the paperwork involved, or because of the difficulty of enforcing their collection? If the operator of a vessel has been fined, but has not paid the fine, is he barred from operating the vessel?

ANSWER

The Coast Guard is not reluctant to impose civil penalties. The non-payment of a civil penalty is not a bar to vessel operation. If the statute under which the penalty is assessed also provides for in rem liability, the vessel itself may be proceeded against by the U.S. Attorney for collection of the penalty and the arrest of the vessel attendant to such a proceeding would clearly impede its operation. Similarly, the violation could involve conduct on the part of the operator which would subject his license to operate the vessel to Coast Guard suspension and revocation action.

--How would you define your mandate from the Congress with respect to the imposition of civil penalties, and the relative strictness with which you are expected to enforce the law?

ANSWER:

In the area of marine safety, the Congress has provided for the imposition of civil penalties as one of several means, to be used separately or in concert as the circumstances dictate, of ensuring compliance with the requirements of law and regulation.



QUESTIONS SUBMITTED BY MR. FORSYTHEHistorical Policy

1. Please explain, briefly, how the U.S. came to have a pilotage system that involves both Federal and State pilot licenses.

## ANSWER:

In the "Act of August 7, 1789", Congress left to the States the power to regulate pilots. As part of that Act, Congress included the phrase "until further provisions is made by Congress." Since that Act of 1789, Congress has "acted" in several areas of pilotage by establishing, in 1871, Federal authority regarding steam vessels in the coastwise trade under enrollment (46 U.S.C. 8502), and, in 1954, on the Great Lakes (46 U.S.C. 9301).

The 1st Congress left the regulation of pilotage to the States because, even prior to the Revolutionary War, a number of States, including Pennsylvania, Massachusetts, Virginia and Maryland, had organized pilotage systems. Shipping had begun to flourish and a new commerce with the Orient was developing. Congress enacted provisions for the continuance and expansion of State pilotage systems because these systems were in place and functioning well.

In 1871, Congress enacted provisions requiring Federal pilots on coastwise seagoing steam vessels and prohibiting the imposition of any obligation for them to employ State pilots. The Federal pilot provision applied only to those vessels "not sailing under register." Congress enacted these provisions because masters and mates of vessels in the foreign trade made extended voyages to foreign ports and lacked local up to date knowledge, whereas masters and mates of coastwise vessels engaged in the home trade had current familiarity with the ports they frequented.

2. What is the policy rationale for maintaining a system in which the license under which a pilot is operating depends, not on where the ship is located, nor on the size or type of ship involved, but instead on the type of trade in which the ship is engaged?

## ANSWER:

In the beginning, the rationale was that coastal waters were not accurately charted, aids to navigation were poor to non-existent, and the equipment for accurate plotting of positions in coastal waters was crude. Second there was the factor that merchant ships in the foreign trade were on extended overseas voyages and would either return to the United States at unfamiliar ports or return to ports after long periods of absence during which time channels may have changed considerably. Therefore, only an individual who was continually navigating the same stretch of water was felt to have the requisite knowledge of local landmarks, channels, and conditions. The first of these factors is no longer valid today because of our modern system of aids to navigation, detailed up to date charts, and other modern systems of navigation. The second factor remains partially valid, however, because mariners on vessels in the foreign trade may not frequent ports with which they are familiar.

Quality of State and Federal Systems

3. Do the State pilot licensing boards generally have tests and standards at least equal to, or more stringent than, those required by the Coast Guard in determining who should be issued a license?

ANSWER:

The Coast Guard does not have available the information necessary to answer this question.

4. In which States is the Federal pilot license a prerequisite to obtaining a State license? Which States require that the pilot maintain a Federal License in good standing as a pre-condition of maintaining the State License? That is, in which States would the Coast Guard's exercise of the authority in Section 4 have the effect of getting an unfit pilot completely off the water?

ANSWER:

The Federal pilot license is a prerequisite to obtaining a State license in seven states: Maine, Rhode Island, Connecticut, North Carolina, Alabama, Washington, and Texas for certain ports. In Connecticut, the state license must be renewed annually and "proof of current federal licensure" is required for renewal, according to the statute. Texas requires for renewal the meeting of the qualifications for original issuance. In the other states, the statute is silent about whether the federal license is required for renewal of the state license. (Duration of licenses is specified at one year in North Carolina, no expiration in Alabama, four years in Texas, and five years in the other three states.)

State regulations are unavailable to us. Such regulations may specify whether the Federal license is required for renewal of the state license. In addition, the state statutes are silent about whether the state license may be continuously dependent upon the federal license. This point may also be addressed by regulations. States not mentioned above may require the Federal license as a prerequisite by regulation, but they do not do so by statute.

5. Do State pilot licensing bodies now have authority to revoke a State license based on an incident that occurs while the individual is operating under the individual's Federal license?

ANSWER:

46 U.S.C. 8501(a) provides States with the sole authority for regulation of State pilots. We understand that States presently have the authority to provide for revocation of a State license based on such an incident.

6. Are there particular State pilot boards which have a poor track record when it comes to disciplining their pilots? Would you care to name those States?

ANSWER:

I do not have adequate information on State pilot board action to answer this question.

7. Pilot associations have told me that Section 4 will not make any difference to safety. They also claim that they are doing a good job of enforcing safety, and that the Coast Guard's history of enforcement against Federally-licensed pilots is spotty. Do you have any comments on these claims?

ANSWER:

I concur that, by and large, pilots are doing a fine job. I disagree, however, that our action against Federal pilots is spotty. The Coast Guard takes action against the Federal license of pilots when investigation shows that an actionable offense was committed and Federal jurisdiction exists. If enforcement sometimes appears spotty, it is because presently, Federal licenses held by individuals directing navigation under authority of State pilotage laws are beyond Federal jurisdiction. What section 4 would provide is a consistency of jurisdiction over licenses held by officers that direct the navigation of vessels.

8. The State of Delaware Pilot Commissioners, in a letter to Chairman Jones, wrote:

"Pilots licensed by the States of Delaware and Pennsylvania pilot more than 90% of the ships moving in the Bay and River Delaware and have less than 10% of the reportable incidents while doing so. Others, not under our licensing control, account for the rest."

I infer from this statement that 10% of ships in that area, apparently under the control of pilots holding only a Federal license, cause 90% of the incidents. Is my inference correct? Do you have any comment on the implications these figures hold for the quality of Federally-licensed pilots and the effectiveness of Coast Guard enforcement against Federal pilots involved in incidents?

ANSWER:

Even without benefit of the statistics upon which this statement is based, I suggest that your inference is not correct. While 10% of the ships in the area may not be under the control of a State pilot, it cannot be assumed that those vessels are under the control of a Federal pilot or any pilot at all. Incidents involving commercial vessels which do not require a pilot, and recreational vessels are also reportable and certainly make up a portion of the 90% of incidents that the inference would attribute to Federal pilots. It appears that the figures may have no relation to the quality of Federally licensed pilots or to the effectiveness of Coast Guard action against their licenses.

9. There seems to be a lack of information about the states' practices in taking action (fines, license suspensions, etc.) against the pilot of a vessel involved in a marine casualty. A compilation of this information would at least indicate whether an enforcement problem actually exists at the state level. Why hasn't the Coast Guard issued regulations (for example, under 46 U.S.C. 6102, as contained in P.L. 98-89) to require the states to report such information to the Coast Guard?

ANSWER:

The Coast Guard has, through analysis of casualty report data, the means to determine whether pilot error is a contributing factor in a casualty. That data has not demonstrated a problem of such magnitude as to successfully compete for scarce resources necessary for inquiry to determine the full extent of enforcement action by the States.

Section 4 of H.R. 3486 and Other Remedies

10. What is the Coast Guard's view of the merits of Section 4 of H.R. 3486?

ANSWER:

The Coast Guard has not recently sought authority to permit us to take action against the Federal license of a pilot while operating under the authority of a State license. However, we do feel that such authority would increase maritime safety and increase real and perceived enforcement fairness. We do have reasonably effective alternatives to such authority, including (1) use of civil penalty procedures, (2) exchange of information with state pilot commissions, and (3) a proposed rule which would require disclosure of complete individual casualty records before renewing a Federal license.

11. Do you believe Section 4 would materially improve maritime safety? What is the basis for this belief?

ANSWER:

The authority over state pilots provided by Section 4 would give the Coast Guard uniformity in jurisdiction in taking disciplinary action against all licensed maritime personnel. This additional authority would facilitate enforcement efforts to improve safety in those instances where the negligent actions of State pilots are not adequately dealt with by state authorities.

12. (a) If the principal purpose of Section 4 is to promote maritime safety by getting unfit pilots off the water, would you recommend that the Coast Guard be given legal authority to revoke the individual's State license as well as the Federal license?

(b) Would it make sense to authorize the Coast Guard to initiate action against a State pilot license in cases where the State has failed to initiate an investigation within, say, three months after an incident occurs?

(c) Would it make sense to authorize the Coast Guard to initiate action against a State pilot license in cases where a court, or an independent body such as the National Transportation Safety board, has found the pilot negligent or unfit, but the State licensing body did not so find?

(d) Can you suggest how we might tailor the language in Section 4 so as to authorize Coast Guard action only in cases where there is reason to believe that the State board is less than conscientious in carrying out its duties to assure maritime safety?

ANSWER:

Our views regarding the proposed Section 4 of H.R.3486 and the enforcement mechanisms now available to us are indicated in our responses to related questions. We do not have data available to justify or properly evaluate the alternatives to that legislation described in this question. It appears, however, that alternative legislation in this sensitive area will be unnecessary if we succeed in our efforts to exchange casualty information with State pilot commissions and make full use of the enforcement mechanisms we now have or have proposed.

13. Would the Coast Guard support the elimination of the Federal pilot license, thus giving the full licensing authority to the States? Would your support be conditioned on the Coast Guard retaining a specific or general authority to oversee the States' administration of the pilotage system?

ANSWER:

The Coast Guard would not support the elimination of the Federal pilot license, thus giving the full licensing authority to the States. State pilotage is non-uniform but is essentially like a monopoly whereas anyone meeting the Federal pilot licensing requirements can obtain a Federal pilot's license. Many masters and mates of vessels in the domestic trade obtain Federal pilotage endorsements in order to qualify to provide their own pilotage. It would be very costly to the shipping industry if the vessels now subject to Federal pilotage would have to use State pilots. Even if all States were to adopt the present Federal system, it would still be more costly and less efficient to have many States administering and regulating the pilotage system which a single Federal agency does now.

14. Would it be feasible to retain a Federal pilot licensing system only for those geographic regions (such as the Great Lakes), or particular ports (such as Los Angeles), where no State licensing system exists?

ANSWER:

Our response to this question is the same as our answer to question 13.

QUESTION SUBMITTED BY MR. DON YOUNG

1. The Coast Guard has a proposed rule regarding the licensing of pilots and manning of vessels by pilots (CGD 77-084), which proposes a new Section 157.20.40 entitled "Pilots". The proposed section cites 46 U.S.C. 364 while the discussion of the proposed regulations cites 46 U.S.C. 214. Would you briefly discuss the statutory basis for this proposal and its rationale? Specifically, will those authorized to be pilots under the proposed section be required to qualify in the same manner as all other pilots?

**ANSWER:**

The proposed rule (CGD 77-084), as published in January 1983, had its basis in three statutes, 46 USC 214, 364, and 391a. With the enactment of Public Law 98-89 those authorities were carried forward in the recodification of Title 46 at 46 USC 7101, 8502 and 3702, respectively. The interrelation of these sections can best be seen by reading 46 USC 8502 which addresses the types of vessels which require Federal pilots. In its text it refers to the authority for licensing Federal pilots contained in 46 USC 7101 and includes a Federal pilotage requirement for Coastwise seagoing vessels subject to inspection under Chapter 37 of Title 46. 46 USC 3702 sets forth the applicability of Chapter 37.

The Coast Guard has for many years allowed by regulation (46 CFR 157.30-40) the master or mate of a vessel of not more than 1000 gross tons to function as a licensed pilot, within the limitations and restriction of his deck officer license, and without specific endorsement as pilot on that license. The rationale used here is that the regulation in itself serves the same purpose as a specific endorsement.

The rulemaking project seeks to extend the concept used for self-propelled vessels of not more than 1000 gross tons to include certain non-self-propelled tank barges. The requirement as to age, health, knowledge and proficiency of pilots as set forth in 46 USC 7101(e) are added to make sure that those individuals who will become authorized to act as pilot by virtue of this proposal are meeting the same requirements of law as are traditional First Class Pilots. The specific implementing regulations will be tailored to fit the previous marine experience and license status of the applicants, thus there will be differences in how an applicant qualifies.

